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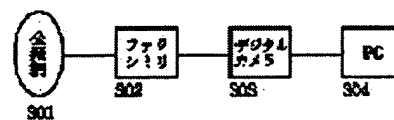
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(54) PICTURE COMMUNICATION SYSTEM AND ITS CONTROLLING METHOD

(57)Abstract:

PROBLEM TO BE SOLVED: To execute the output selecting operation of picture data from a picture input device by simple processing by transmitting a different control signal in accordance with the visible output of the picture data or the transmission of the picture data through a communication line.

SOLUTION: In the case of color-printing picture data obtained by a digital camera 303, a CPU in the camera 303 detects the depression of a printing button on an operation part and transmits a 'printing request' message to a facsimile(FAX) equipment 302. At the time of detecting the depression of 'line transmission' on the operation part in the case of transmitting the picture data from the camera 303 to an outer opposite party connected through an ISDN, the CPU in the camera 303 transmits a 'line transmission request' message to the FAX equipment 302. Thus the printing-out picture data and its FAX transmission to a communication line can be executed only by changing the operation of the camera 303 without executing the transfer of data to a personal computer 304 or re-



connecting the data.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the image communication system which the visible output of the image data of a picture input device is carried out, or can transmit it to a communication line, and its control approach.

[0002]

[Description of the Prior Art] Usage which color-prints conventionally the image photoed by picture input devices, such as a digital camera, or sends to the partner who is present in the distant place is carried out. The configuration of the conventional image communication system in the case of carrying out such usage is shown in drawing 1. For network control units, such as a modem and a terminal adopter, and 103, as for the printer for PC, and 105, in this drawing, a personal computer (PC) and 104 are [101 / a public network and 102 / a digital camera and 106] the printers only for digital cameras.

[0003] drawing 2 -- the block diagram of a digital camera 105 -- it is -- this drawing -- setting -- 201 -- CPU and 202 -- for a control unit and 205, as for a printer interface and 207, PC interface and 206 are [memory and 203 / the image input section and 204 / a communication adapter interface and 208] data buses.

[0004] When the image photoed with the digital camera 105 is printed, after downloading the image data stored in the memory 202 of a digital camera 105 to a personal computer 103 through the PC interface 205, it can output to a printer 104 with the application software of a personal computer 103.

[0005] When image data is transmitted, after once downloading image data to a personal computer 103 on the other hand, after compressing with the application software of a personal computer, it transmits to the data network control unit 102, and is transmitted to a communication line through a network control unit 102.

[0006] It was possible to have printed the image photoed with the digital camera, or to have transmitted through a communication line by such approach.

[0007] Moreover, when there was no personal computer, carrying out direct continuation of the digital camera to the exclusive printer 106 or an exclusive modem through a printer interface 206 or the communication adapter interface 207, and performing print and transmission to a communication line was also performed.

[0008] Moreover, a configuration which connects between a digital camera, and printers and modems by the wireless circuit may be taken.

[0009] With such a configuration, the same wireless circuit was used by the case where data are transmitted to a printer, and the case where data are transmitted to a communication line through a modem.

[0010]

[Problem(s) to be Solved by the Invention] However, in a configuration of connecting the above digital cameras, printers, and modems with a cable, when the printer and the modem were not installing in near in addition to being necessary for a digital camera to have both the interfaces the object for printers, and

for modems, there was a problem that the change of connection was required.

[0011] Moreover, although it is efficient at the time of the data transmission to a printer with the need of sending a lot of data if it is made a thing high-speed as a transmission speed of a radio circuit when taking a configuration which connects between a digital camera, and printers and modems by the wireless circuit Even if it compresses data like [in the case of accessing public networks such as ISDN (Integrated Services Digital Network) and PSTN (Public Switched Telephone Network),] Even when not interfering, there was a problem that the radio circuit of the same transmission speed as the time of transmitting data to a printer will be occupied.

[0012] Moreover, when it was made to connect with a printer or a modem using the radio circuit of a low speed transmission speed according to the case where public networks, such as ISDN and PSTN, are accessed, there was a problem that it could only perform transmitting a lot of data at a low speed to transmit a lot of data to a printer.

[0013]

[Means for Solving the Problem] The invention in this application aims at enabling it to perform actuation which carries out the visible output of the image data of a picture input device, or transmits it to a communication line by easy processing, in order to solve the above-mentioned technical problem.

[0014] Moreover, when between a picture input device and the communication devices in which a visible output of image data is possible is connected by the wireless circuit, it aims at enabling it to use a wireless circuit efficiently according to the operation of image data.

[0015] Moreover, it aims at enabling use of an efficient communication line by using the description of USB (Universal Serial Bus) which can transmit to coincidence the data with which rapidity is demanded, and the data with which real time nature is demanded.

[0016] Moreover, it aims at using the bulk transfer slot in which a high-speed-data transfer is possible in this case in printing of image data etc., and using the isochronous transfer slot in which a real-time transfer is possible in the data transmission to a communication line etc.

[0017] In the image communication system which has the means of communications which communicates through a communication line, the communication device which has the visible output means which carries out the visible output of the image, and the picture input device which inputs an image in order that the invention in this application may attain the above-mentioned purpose The selection means which chooses whether said picture input device carries out the visible output of the image data, or it transmits through a communication line, The 1st [according to selection of said selection means] transmitting means which transmits the 1st and 2nd control signals at least, It has the 2nd transmitting means which transmits said image data to said communication device. Said communication device The 1st receiving means which receives the control signal transmitted from said picture input device, The 2nd receiving means which receives the image data transmitted from said picture input device, If the control signal received with said 1st receiving means is said 1st control signal If the control signal which carried out the visible output of the image data which received with said 2nd receiving means with said visible output means, and was received with said 1st receiving means is said 2nd control signal The image communication system characterized by having the control means which controls the image data which received with said 2nd receiving means to communicate by said means of communications is offered.

[0018] Moreover, it sets to the control approach of an image communication system of having the communication device which has the communication facility which communicates through a communication line, and the visible output function which carries out the visible output of the image, and the picture input device which inputs an image. The selection process which chooses whether said picture input device carries out the visible output of the image data, or it transmits through a communication line, The 1st [according to selection of said selection process] transmitting process the 1st and 2nd control signals are made to transmit at least, It has the 2nd transmitting process which makes said image data transmit to said communication device. Said communication device The 1st receiving process which makes the control signal transmitted from said picture input device receive, The 2nd receiving process which makes the image data transmitted from said picture input device receive, If the

control signal received in said 1st receiving process is said 1st control signal If the control signal which carried out the visible output of the image data received in said 2nd receiving process using said visible output function, and was received in said 1st receiving process is said 2nd control signal The control approach of the image communication system characterized by having the control process which controls the image data received in said 2nd receiving process to communicate using said communication facility is offered.

[0019] Moreover, it sets to a picture input device connectable with the communication device which has the means of communications which communicates through a communication line, and the visible output means which carries out the visible output of the image. The selection means which chooses whether the visible output of the inputted image data is carried out with said communication device, or it transmits through the communication line connected to said communication device, The picture input device characterized by having the 1st [according to selection of said selection means] transmitting means which transmits the 1st and 2nd control signals at least, and the 2nd transmitting means which transmits said image data to said communication device is offered.

[0020] Moreover, can connect with a picture input device and it sets to the communication device which has the means of communications which communicates through a communication line, and the visible output means which carries out the visible output of the image. The 1st control signal transmitted from said picture input device according to whether the visible output of the image data is carried out, or it transmits through a communication line, Or the 1st receiving means which receives the 2nd control signal and the 2nd receiving means which receives the image data transmitted from said picture input device, If the control signal received with said 1st receiving means is said 1st control signal If the control signal which carried out the visible output of the image data which received with said 2nd receiving means with said visible output means, and was received with said 1st receiving means is said 2nd control signal The communication device characterized by having the control means which controls the image data which received with said 2nd receiving means to communicate by said means of communications is offered.

[0021] Moreover, it sets to the control approach of a picture input device which can connect with the communication device which has the communication facility which communicates through a communication line, and the visible output function which carries out the visible output of the image. The selection process which chooses whether the visible output of the inputted image data is carried out with said communication device, and whether it transmits through the communication line connected to said communication device, The control approach of the picture input device characterized by having the 1st [according to the selection in said selection process] transmitting process the 1st and 2nd control signals are made to transmit at least, and the 2nd transmitting process which makes said image data transmit to said communication device is offered.

[0022] Moreover, can connect with a picture input device and it sets to the control approach of a communication device of having the communication link process made communicating through a communication line, and the visible output process which carries out the visible output of the image. The 1st control signal transmitted from said picture input device according to whether the visible output of the image data is carried out, or it transmits through a communication line, Or the 1st receiving process which makes the 2nd control signal receive and the 2nd receiving process which makes the image data transmitted from said picture input device receive, If the control signal received in said 1st receiving process is said 1st control signal If the control signal which carried out the visible output of the image data received in said 2nd receiving process according to said visible output process, and was received in said 1st receiving process is said 2nd control signal The control approach of the communication device characterized by having the control process controlled to make the image data received in said 2nd receiving process communicate in said communication link process is offered.

[0023]

[Embodiment of the Invention]

(Gestalt of the 1st operation) The system configuration Fig. of the gestalt of this operation is shown in drawing 3 . In this drawing, facsimile with the communication facility which communicates by 301

mindings a public network (ISDN: Integrated Services Digital Network) and 302 mindings a public network 301, the print facility which prints an image, the digital camera with which 303 performs an image input, and 304 are personal computers, and facsimile 302, the digital camera 303, and the personal computer 304 are connected by the USB (Univesal Serial Bus) cable.

[0024] Drawing 4 is the block diagram of the facsimile which constitutes the image communication system which carried out this invention, and is set to this drawing. CPU which controls the whole equipment according to the program in which 401 was stored in memory (not shown), such as RAM, The printing processing section in which 402 performs memory and 403 performs data conversion, motor control, etc. for printing, The RGB/CMYK transducer from which 404 changes RGB (Red, Green, Blue) image data into CMYK (Cyan, Magenta, Yellow, black) image data, The facsimile coding processing section which performs compression coding of the image data which 405 transmits to a communication line, The ISDN interface section which performs assembly/decomposition of the data frame to which 406 transmits an ISDN circuit and 407 transmits ISDN, The HDLC (High Level Data Link Control procedures) controller which performs the frame assembly of the image data which 408 transmits, The USB (Universal Serial Bus) interface whose 409 is a communication link interface linked to a digital camera, and 410 are data buses.

[0025] Drawing 5 is the block diagram of the digital camera 303 which constitutes the image communication system which carried out this invention, and, for memory and 503, as for a control unit and 505, the image input section and 504 are [CPU which controls the whole equipment according to the program in which 501 was stored in memory (not shown), such as RAM, and 502 / the USB interface section and 506] data buses in this drawing.

[0026] When color-printing hereafter the image data photoed with the digital camera 303 by facsimile 302 using drawing 11 , the processing in the case of transmitting to ISDN301 via facsimile 302 is explained.

[0027] First, CPU501 of a digital camera 303 makes a "printing demand" message transmit from a digital camera 303 to facsimile 302 through the USB interface 409 of the USB interface section 505 of a digital camera 303, and facsimile 302, when color-printing the image data of a digital camera 303, when the carbon button in a control unit 504 is pushed (S1102) and it detects that it is a print button (S1103) (S1104). CPU401 of facsimile 302 will transmit a "printing reception" message to a digital camera 303, if it detects having received the "printing demand" message, and it is in the condition which can be printed. In addition, it notifies that a "printing is impossible" message is transmitted to a digital camera 303, and a problem is in printer ability to the case in the condition that it cannot print by the reasons of there being no paper.

[0028] CPU501 of the digital camera 303 which detected having received the "printing reception" message starts data transmission to (S1105) and facsimile 302 (S1106). In a digital camera 303, it has the image data of the pixel x480 pixel resolution of 640, and in printing using three colors of RGB, the amount of data becomes $640 \times 480 \times 3 = 921.6$ K-byte (KB). If it takes into consideration that the effective transmission speed of USB is 10Mbps extent, a transmission time will become $921.6 / (10000 / 8) = 0.74$ seconds.

[0029] CPU401 of the facsimile 302 which received this image data stores the received data in memory 402, and sends the "completion of data reception" message to a digital camera (S1107).

[0030] CPU401 of facsimile 302 transmits the image data stored in memory 402 to the printing processing section 403, controls a printer head in the print processing section 403, and performs printing processing (S1108). And after printing processing is completed, a "printing termination" message is transmitted to a digital camera 303, and printing actuation is ended (S1109).

[0031] Next, when CPU501 of a digital camera 303 detects that the "circuit transmitting" carbon button of a control unit 504 was pushed (S1110), a "circuit Request-to-Send" message makes it transmit from a digital camera 303 to facsimile 302, when transmitting the image data of a digital camera 303 to the partner of the outside of the premises where it connected through ISDN (S1111). CPU401 of the facsimile 302 which detected having received the "circuit Request-to-Send" message transmits a "circuit Request-to-Send reception" message to a digital camera 303 (S1112).

[0032] CPU501 of the digital camera 303 which detected having received the "circuit Request-to-Send reception" message starts transmission of the image data to facsimile 302 (S1113). CPU401 of the facsimile 302 which received this image data stores the received data in memory 402, and sends the "completion of data reception" message to a digital camera (S1114).

[0033] In order that CPU401 of facsimile 302 may shorten communication link time amount, after changing into CMYK data the image data stored in memory 402 by the RGB/CMYK conversion circuit 404, it transmits to the facsimile coding processing section 405, and picture compression is performed (S1115). Picture compression is performed by the JPEG (Joint Photographic coding Experts Group) method, is compressed into about 1 / about eight amount of data, and becomes about 1152 K bytes. The compressed image data is again stored in memory 402.

[0034] Next, CPU401 of facsimile 302 transmits a call setup message to ISDN301, and performs dispatch processing (S1116). A partner terminal answers, and if it detects having received the response message from ISDN301 (S1117), CPU401 of facsimile 302 will transmit a "line connection completion" message to a digital camera 303 (S1118).

[0035] Then, after it transmitted to the HDLC controller 409 after adding the header according to a predetermined protocol to the image data which compressed previously and was stored in memory 402, and an HDLC header is added, CPU401 of facsimile 302 is assembled by the frame of ISDN with the ISDN interface 407, and is transmitted by B1 channel (S1119).

[0036] Since the amount of data after compression is about 1115.2 K bytes, if it transmits by 64kbps, transmission can be finished in about 14.4 seconds.

[0037] The facsimile transmission to a communication line also of a printout is also attained without transmitting data to a personal computer or doing the reconnected activity on it by changing actuation of a digital camera as mentioned above.

[0038] (Gestalt of the 2nd operation) In the gestalt of the 1st operation, it assumed connecting by the serial cable of USB between a digital camera and facsimile. However, in order to realize the environment which is easier to use, it is possible to connect between facsimile with a digital camera by the wireless circuit.

[0039] Drawing 6 is the image radio structure of a system which carried out this invention, and, for 601, as for facsimile and 603, a public network (ISDN: Integrated Services Digital Network) and 602 are [a digital camera and 604] personal computers in this drawing.

[0040] Drawing 7 is the block diagram of the facsimile which constitutes the image radio communications system which carried out this invention. CPU which controls the whole equipment in this drawing according to the program in which 701 was stored in memory (not shown), such as RAM, The printing processing section in which 702 performs memory and 703 performs data conversion, motor control, etc. for printing, 704 a RGB/CMYK transducer and 706 for the image elongation section and 705 The facsimile coding processing section, 707 the ISDN interface section and 709 for an ISDN circuit and 708 An HDLC controller, As for the channel codec to which 710 performs assembly/decomposition of a wireless frame, the wireless module with which 711 consists of a high frequency circuit, a strange demodulator circuit, etc., and 712, an antenna and 713 are data buses.

[0041] Drawing 8 is the block diagram of the digital camera which constitutes the image radio communications system which carried out this invention, and is set to this drawing. CPU which controls the whole equipment according to the program in which 801 was stored in memory (not shown), such as RAM, As for the channel codec to which in memory and 803 a control unit and 805 perform the picture compression section, and, as for 806, the image input section and 804 perform [802] assembly/decomposition of a wireless frame, the wireless module with which 807 consists of a high frequency circuit, a strange demodulator circuit, etc., and 808, an antenna and 809 are data buses.

[0042] Drawing 9 is the frame format of the wireless circuit of the image radio communications system which carried out this invention. In this drawing, one frame has die length of 6250 bits (10ms), and consists of the three frequency change sections a CNT (system control) channel, a LCCH (logic control channel) channel, two SD (low-speed data channel), a total of five Time-Division-Multiplexing channels of DCH (data channel), and for frequency hopping.

[0043] A CNT channel consists of a CRC section (CRC) for performing intermittent terminal starting address part (WA) for applying starting of the terminal under the framing word section (SYN) for the carrier sense section (CS), the preamble section (PR), and the received terminal holding frame synchronization, the frame number information bureau (BF) which uses it for control of a hopping pattern, the frame frequency [degree] number section (NF), and intermittent reception, and error detection, and a guard time (GT).

[0044] A LCCH channel consists of the carrier sense section (CS0, CS1, CS2), the preamble section (PR), the unique WORD section (UW), transmission place address part (DA), the LCCH control data section (LCCH), a CRC section (CRC), and the frequency change section (CF).

[0045] A low-speed data channel consists of the carrier sense section (CS), the preamble section (PR), the unique WORD section (UW), low-speed data division (SD), a CRC section (CRC), and a guard time (GT).

[0046] A high-speed data channel consists of the carrier sense section (CS0, CS1, CS2), the preamble section (PR), the unique WORD section (UW), transmission place address part (DA), data division (DATA), and a guard time.

[0047] In the above-mentioned frame, a low-speed data channel has the transmission speed of 32kbps (es), and the high-speed data channel has the transmission speed of 441.6kbps(es), and transmits it by the spread-spectrum communication mode of a 2.4GHz band.

[0048] When color-printing hereafter the image data photoed with the digital camera 603 by facsimile 602 through a wireless circuit using drawing 12, the processing in the case of transmitting to ISDN601 via facsimile 602 is explained.

[0049] First, when color-printing the image data of a digital camera 603, if the carbon button which CPU801 of a digital camera 603 has in a control unit 804 is pushed (S1202) and it detects that it is a print button (S1203), a "printing demand" message will be transmitted from a digital camera 603 to facsimile 602 (S1204). In transmitting a message, CPU801 of a digital camera 603 encodes a message, and it writes in the channel codec 806, and the channel codec 806 sends out data in the LCCH field of the frame format shown in drawing 9, and transmits as an electric wave through the wireless module 807 and an antenna 808.

[0050] CPU701 of facsimile 602 receives an electric wave with an antenna 712 and the wireless module 711, decomposes a receiving frame in the channel codec 710, takes out the data included in the LCCH field, and reads the data.

[0051] If CPU701 of facsimile 602 recognizes it as the message which received being a "printing demand" message, and it is in the condition which can be printed, it will transmit a "printing reception" message to a digital camera 603 by the LCCH field. In addition, it notifies that a "printing is impossible" message is transmitted to a digital camera 603, and a problem is in printer ability to the case in the condition that it cannot print by the reasons of there being no paper.

[0052] CPU801 of the digital camera 603 which detected having received the "printing reception" message starts (S1205) and data transmission in facsimile 602 (S1206). The image data at the time of printing is transmitted in the DCH field of a wireless frame. The amount of data is $640 \times 480 \times 3 = 921.6$ K-byte (KB), and since the transmission speed of the DCH field is 441.6kbps(es), it ends transmission in $821.6 / (441.6 / 816.7) = 16.7$ seconds, as the gestalt of the 1st operation described. CPU701 of the facsimile 602 which received this image data stores the received data in memory 702, and sends the "completion of data reception" message in the LCCH field to a digital camera (S1207).

[0053] CPU701 of facsimile 602 transmits the image data stored in memory 702 to the print processing section 703, controls a printer head in the print processing section 703, and performs printing processing (S1208). And after printing processing is completed, in the LCCH field, a "printing termination" message is transmitted to a digital camera 603, and printing actuation is ended (S1209).

[0054] Next, when transmitting the image data of a digital camera 603 to the partner of the outside of the premises where it connected through ISDN601, if it detects that the "circuit transmitting" carbon button of a control unit 804 was pushed (S1210), in the LCCH field, a "circuit Request-to-Send" message will transmit CPU801 of a digital camera 603 from a digital camera 603 to facsimile 602 (S1211). CPU701

of the facsimile 602 which received the "circuit Request-to-Send" message transmits a "circuit Request-to-Send reception" message to a digital camera 603. CPU801 of the digital camera 603 which detected having received the "circuit Request-to-Send reception" message performs JPEG compression for the image data to (S1212) and facsimile 602 in the picture compression section 805, and compresses image data into about 115.2 K bytes (S1213). And the compressed data are written in the channel codec 806, and it is made to output with the transmission speed of 32kbps(es) in SD field of a wireless frame from the channel codec 807. Furthermore, it is made to transmit as an electric wave through the wireless module 807 and an antenna 808 (S1214). Transmission using this SD field can be transmitted to facsimile 602 in $115.2 / (32/8) = 28.8$ seconds.

[0055] If an electric wave is received through the antenna 712 wireless module 711, CPU701 of facsimile 602 will store in memory 702 the data received in the channel codec 710 in SD field, and will send the "completion of data reception" message in the LCCH field to a digital camera (S1215).

[0056] And CPU701 of facsimile 602 changes into CMYK data the data stored in memory 702 by (S1216) and the RGB/CMYK conversion circuit 705, after elongating in the image elongation section 704, and it transmits them to the facsimile coding processing section 405, and picture compression is performed again (S1217). Picture compression is performed by the JPEG method, is compressed into about 1 / about eight amount of data, and becomes about 115.2 K bytes. The compressed image data is again stored in memory 702.

[0057] Next, CPU701 of facsimile 602 transmits a call setup message to ISDN601, and performs dispatch processing (S1218). And if a partner terminal answers and the response message from ISDN601 is received (S1219), a "line connection completion" message will be transmitted to a digital camera 603 (S1220).

[0058] Moreover, after having added the header according to a protocol to the image data which was compressed and was stored in memory 702, transmitting to the HDLC controller 709 and adding a HDCL header, CPU701 of facsimile 603 is assembled by the frame of ISDN with the ISDN interface 708, and is transmitted by B1 channel (S1221).

[0059] Since the amount of data after compression is about 115.2 K bytes, if it transmits by 64kbps, transmission can be finished in about 14.4 seconds.

[0060] In transmitting by the high-speed wireless circuit in performing highly minute printing without causing degradation according to compression/elongation processing as mentioned above, compressing and transmitting to a communication line, it becomes possible by using a low-speed wireless circuit to use an electric-wave resource effectively.

[0061] In addition, in the gestalt of the 1st operation, when image data was transmitted to facsimile from a digital camera, compression of image data was omitted.

[0062] However, when cable connection is made by USB, the same effectiveness can be acquired even if it compresses and transmits image data. That is, image data is transmitted without compressing, in printing, and when transmitting to a communication line, it compresses and you may make it transmit.

[0063] Since it has been about 0.09 seconds of 1/the 8 and a transmission line can be efficiently used when transmitting to a communication line for 0.74 seconds as the transmission time was shown in the gestalt 1 of operation by this, when printing, it is effective when many terminals are connected to USB.

[0064] Moreover, in the gestalt of the 2nd operation, the wireless circuit which consists of a high-speed data channel and a low-speed data channel was used by the spread-spectrum communication mode using a 2.4GHz band. However, also when using the wireless circuit which consists of two or more low-speed data channels like PHS (Personal Handy-phoneSystem), it is possible to acquire the same effectiveness.

[0065] The frame format of PHS is shown in drawing 10. The frame of PHS has eight slots (four uni directionals) of 32kbps, and uses one of these slots for transmission of control data.

[0066] In this case, in printing the image data of a digital camera by facsimile, after compressing image data into the first compressibility (about 1/2), it transmits using two slots of 32kbps(es), and ends transmission in about 57.6 seconds. This first compression approach can reproduce the completely same image data, if it elongates by the facsimile side which unlike JPEG used with the gestalt of the 2nd operation is compression of an reversible method and was received.

[0067] On the other hand, in transmitting the image data of a digital camera to a communication line through facsimile, after compressing image data into the second compressibility (about 1/8), it transmits using one slot of 32kbps(es), and ends transmission in about 28.8 seconds.

[0068] In addition, between a digital camera and facsimile, in advance of transmission of image data, a message is exchanged like the gestalt of the 1st operation, or the gestalt of the 2nd operation, and it is determined which slot is used.

[0069] Thus, when you may transmit by the data compressed with high compressibility, it becomes possible to use a radio circuit effectively by lessening the number of the wireless slots to be used.

[0070] (Gestalt of the 3rd operation) In the gestalt 1 of the 1st operation, though data transmission by USB was performed, it was what is not harnessing the features of USB that both the bulk transfers that make possible isochronous transfer which enables a real-time transfer, and mass data transfer can be performed.

[0071] By using the features of Above USB, it becomes possible to obtain a still bigger merit.

[0072] The conceptual diagram of the frame structure of USB is shown in drawing 13 . this drawing -- setting -- the frame structure of USB -- the header (SOF:Start of Frame) of the frame head section -- by securing the transfer time for every fixed period beforehand, and transmitting data periodically for every secured time amount of this After performing the isochronous transfer slot which performs an audio real-time transfer, the interrupt transfer slot which transmits little data within the delay for which it opted beforehand, and an isochronous transfer and an interrupt transfer By transmitting data to the surplus time amount, there is a bulk transfer slot which transmits a lot of [printer data etc.] data.

[0073] In performing the bulk transfer which used the bulk transfer slot hereafter when the image data of a digital camera was color-printed by facsimile (namely, when transmitting a lot of data to facsimile from a digital camera.) and transmitting the image data of a digital camera to ISDN through facsimile on real time, it explains the example which performs the isochronous transfer which used the isochronous transfer slot.

[0074] In addition, since the system configuration in the gestalt of this operation is the same as that of the gestalt (drawing 3) of the 1st operation, explanation is omitted.

[0075] Moreover, since the configuration of facsimile 302 is the same as that of the gestalt (drawing 4) of the 1st operation, explanation is omitted.

[0076] However, the configuration of the digital camera in the gestalt of this operation becomes like drawing 14 .

[0077] In drawing 14 , the facsimile coding processing section 1401 which carries out facsimile coding of the image data inputted from the image input section 503 is added to the 1st configuration of the digital camera of the gestalt of operation. Since other configurations are the same as that of the gestalt (drawing 5) of the 1st operation, explanation is omitted.

[0078] When carrying out the bulk transfer of the image data photoed with the digital camera 303 hereafter using drawing 15 and color-printing by facsimile 302, an isochronous transfer is carried out at facsimile 302, and the processing in the case of transmitting to ISDN301 on real time via facsimile 302 is explained.

[0079] In drawing 15 , when color-printing the image data of a digital camera 303, CPU501 of a digital camera 303 will transmit a "printing demand" message from a digital camera 303 to facsimile 302 through the USB interface section 505 of a digital camera 303, and the USB interface section 409 of facsimile 302, if the carbon button in a control unit 504 is pushed (S1502) and it detects that it is a print button (S1503) (S1504). Since real time nature is not required, this message is transmitted in a bulk transfer slot.

[0080] If CPU401 of the facsimile 302 which received the "printing demand" message transmitted using this bulk transfer slot is in the condition which can be printed, it will transmit a "printing reception" message to a digital camera 303 using a bulk transfer slot. In addition, it notifies that a "printing is impossible" message is transmitted to a digital camera 303 using a bulk transfer slot, and a problem is in printer ability to the case in the condition that it cannot print by the reasons of there being no paper.

[0081] CPU501 of a digital camera 303 will start transmission of image data, if the "printing reception"

message transmitted using the bulk transfer slot is received (S1505) (S1506). Since this image data is also data with a large capacity while real time nature is not required, it is transmitted in a bulk transfer slot. In a digital camera 303, it has the image data of 640 pixel x480 pixel resolution, and in printing using three colors of RGB, the amount of data becomes $640 \times 480 \times 3 = 921.6$ K-byte (KB). If it takes into consideration that the effective transmission speed of USB is 10Mbps extent, a transmission time will become $921.6 / (10000 / 8) = 0.74$ seconds.

[0082] CPU401 of the facsimile 302 which received this image data stores the received data in memory 402, and sends the "completion of data reception" message using a bulk transfer slot to a digital camera 303 (S1507).

[0083] And CPU401 of facsimile 302 transmits the image data stored in memory 402 to the printing processing section 403, controls a printer head in the print processing section 403, and performs printing processing (S1508). After printing processing is completed, a "printing termination" message is transmitted using a bulk transfer slot to a digital camera 303, and printing actuation is ended (S1509).

[0084] Next, when transmitting the image data of a digital camera 303 to the partner of the outside of the premises where it connected through ISDN, CPU501 of a digital camera 303 will transmit a "circuit Request-to-Send" message to facsimile 302 using a bulk transfer slot, if it detects that the "circuit transmitting" carbon button of a digital camera 303 was pushed (S1510) (S1511). CPU401 of the facsimile 302 which received the "circuit Request-to-Send" message transmitted using the bulk transfer slot transmits a "circuit Request-to-Send reception" message to a digital camera 303 using a bulk transfer slot (S1512).

[0085] Next, CPU401 of facsimile 302 transmits a call setup message to ISDN301, and performs dispatch processing (S1513). If a partner terminal answers and CPU401 of facsimile 302 receives a response message from ISDN301, CPU401 of facsimile 302 will transmit a "line connection completion" message using a bulk transfer slot to a digital camera 303 (S1514).

[0086] CPU501 of the digital camera 303 which received the "line connection completion" message transmitted using this bulk transfer slot starts transmission of the image data to facsimile 302. However, CPU501 of a digital camera carries out facsimile coding of the image data in the facsimile coding processing section 1401 in a digital camera 303 (S1515), and transmits the encoded data to facsimile 302 using an isochronous transfer slot as it is (S1516). And CPU401 of facsimile 302 transmits the data transmitted using the isochronous transfer slot to a partner terminal through ISDN301 (S1517). In addition, the encoded data are 64Kbps(es) at the maximum, and transmitting on real time according to a facsimile protocol is called for. Therefore, the encoded image data is transmitted in an isochronous transfer slot.

[0087] The facsimile transmission to a communication line also of a printed output is also attained without transmitting data to a personal computer or doing the reconnected activity on it by changing actuation of a digital camera as mentioned above. In case it transmits to a communication line especially, by using an isochronous transfer of USB, also while having transmitted image data to the communication line, it becomes possible to transmit other data by the bulk transfer slot, and efficient use of a communication line is realized.

[0088] Moreover, according to how the data transmitted from a picture input device are outputted, by using the bulk transfer slot and isochronous transfer slot of USB properly, a communication line can be used efficiently and transmission which suited the application can be performed.

[0089] (Gestalt of the 4th operation) In the gestalt of the above 1st - the 3rd implementation, although it was only that a digital camera treats image data, the digital camera of the gestalt of this operation has the voice-input/output section 1601 constituted with the hand set which outputs and inputs voice of which real time nature is usually required, as shown in drawing 16.

[0090] Moreover, since other configurations of a digital camera, a system configuration, and the configuration of facsimile are the same as that of the gestalt (drawing 3 , drawing 4) of the 1st operation, explanation is omitted.

[0091] Hereafter, in the gestalt of this operation, the voice from a digital camera 303 is explained using drawing 17 about the case where it communicates on real time through facsimile 302 and ISDN301.

[0092] In drawing 17, when printing the image data of a digital camera 303 by facsimile 302, it transmits to facsimile 302 from a digital camera 303 like the gestalt of the 3rd operation using the bulk transfer slot of USB (S1701-S1709).

[0093] When it is necessary to telephone through ISDN, transmitting these image data, if it detects that the "message" carbon button of a control unit 504 was pushed (S1710), a "circuit Request-to-Send" message will transmit CPU501 of a digital camera 303 to facsimile 302 using a bulk transfer slot (S1711). CPU401 of the facsimile 302 which received the "circuit Request-to-Send" message transmitted using the bulk transfer slot transmits a "circuit Request-to-Send reception" message to a digital camera 303 using a bulk transfer slot (S1712).

[0094] Next, CPU401 of facsimile 302 transmits a call setup message to ISDN301, and performs dispatch processing (S1713). If a partner terminal answers and CPU401 of facsimile 302 receives a response message from ISDN301, CPU401 of facsimile 302 will transmit a "line connection completion" message to a digital camera 303 using a bulk transfer slot (S1714).

[0095] CPU501 of the digital camera 303 which received the "line connection completion" message transmitted by the bulk transfer slot starts transmission of the voice data to facsimile 302 using an isochronous transfer slot. This voice is inputted from the microphone attached to the voice-input/output section 1601 of a digital camera 303, after carrying out analog-to-digital conversion, it is transmitted to facsimile 302 by the isochronous transfer slot as data of the transmission speed of (S1715) and 64kbps (S1716), and it is transmitted to a partner terminal through facsimile 302 and ISDN301 (S1717). Transmitting voice data on real time is called for. Therefore, this voice data is transmitted in an isochronous transfer slot.

[0096] Simultaneous transmission of an image/voice is enabled by being non-real time nature as mentioned above, using the bulk transfer of USB, in transmitting and printing a lot of image data, and using an isochronous transfer of USB, in transmitting the voice data which can ask for real time nature, using a communication line efficiently.

[0097] In addition, although the voice data which can ask for real time nature was explained about the case where it communicates by the isochronous transfer slot, with the gestalt of this operation, communicating image data using a bulk transfer slot, the communication link of the image data using a bulk transfer slot and the communication link of the voice data using an isochronous transfer slot do not need to be performed to coincidence.

[0098] Moreover, although USB was assumed as a connection circuit which connects facsimile apparatus with a digital camera in the gestalt of the gestalt 1st of implementation of the above 1st - the 4th operation, if it is the connection circuit which can perform high-speed-data transfer and real-time data transfer to coincidence, it is possible to acquire effectiveness with the same said of the communication line of others including IEEE1394.

[0099] Moreover, in the gestalt of the above 1st - the 4th implementation, facsimile was assumed as a network control unit. However, if it is equipment which has a function linked to a communication line, and the function to print, it is possible to perform processing with the same said of things other than facsimile.

[0100] Moreover, in the gestalt of the above 1st - the 3rd implementation, ISDN was assumed as a communication line. However, even if it is an analog public line, it is possible to perform same processing.

[0101]

[Effect of the Invention] As explained above, according to this invention, actuation which prints the image data of picture input devices, such as a digital camera, or is transmitted to a communication line can be performed by easy actuation.

[0102] Moreover, when between picture input devices, such as a digital camera, and visible output units, such as a printer, and communication devices is connected by the wireless circuit, a wireless circuit can be used efficiently.

[0103] Moreover, it becomes possible to transmit various media, using efficiently the connection communication line which connects a picture input device and a communication device by using the

bulk transfer slot of USB in printing the image data of picture input devices, such as a digital camera, and using the isochronous transfer slot of USB in transmitting image data and voice data to real time at a communication line.

[0104] That is, the connection circuit which connects between a picture input device and a communication device can be efficiently used by changing the transfer approach like the bulk transfer of USB, and an isochronous transfer, corresponding to how the data to transmit are outputted.

[0105] Moreover, the transfer which suited the application can be performed by connecting a picture input device and a communication device using the connection circuit in which two or more transfer approaches, such as the transfer approach which was suitable for the data transfer of non-real time nature, for example, and the transfer approach suitable for the data transfer of real time nature, are possible.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The conventional image communication system block diagram.

[Drawing 2] The block diagram of the digital camera in the conventional image communication system.

[Drawing 3] The structure-of-a-system Fig. of the pictorial communication of the gestalt of the 1st operation.

[Drawing 4] The block diagram of the facsimile in the image communication system of the gestalt of the 1st operation.

[Drawing 5] The block diagram of the digital camera in the image communication system of the gestalt of the 1st operation.

[Drawing 6] The image radio structure-of-a-system Fig. of the gestalt of the 2nd operation.

[Drawing 7] The block diagram of the facsimile in the image radio communications system of the gestalt of the 2nd operation.

[Drawing 8] The block diagram of the digital camera in the image radio communications system of the gestalt of the 2nd operation.

[Drawing 9] The wireless frame format in the image radio communications system of the gestalt of the 2nd operation.

[Drawing 10] The wireless frame format in the image radio communications system at the time of using PHS.

[Drawing 11] The operation flow chart of the image communication system of the gestalt of the 1st operation.

[Drawing 12] The operation flow chart of the image radio communications system of the gestalt of the 2nd operation.

[Drawing 13] The 1st, the 3rd, the frame structure conceptual diagram of USB in the image communication system of the gestalt of the 4th operation.

[Drawing 14] The block diagram of the digital camera in the image communication system of the gestalt of the 3rd operation.

[Drawing 15] The operation flow chart of the image communication system in the gestalt of the 3rd operation.

[Drawing 16] The block diagram of the digital camera of the image communication system in the gestalt of the 4th operation.

[Drawing 17] The operation flow chart of the image communication system in the gestalt of the 4th operation.

[Description of Notations]

301 Public Network (ISDN:Integrated Services Digital Network)

302 Facsimile

303 Digital Camera

304 Personal Computer

[Translation done.]

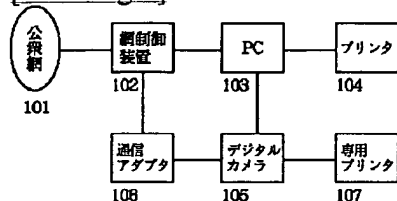
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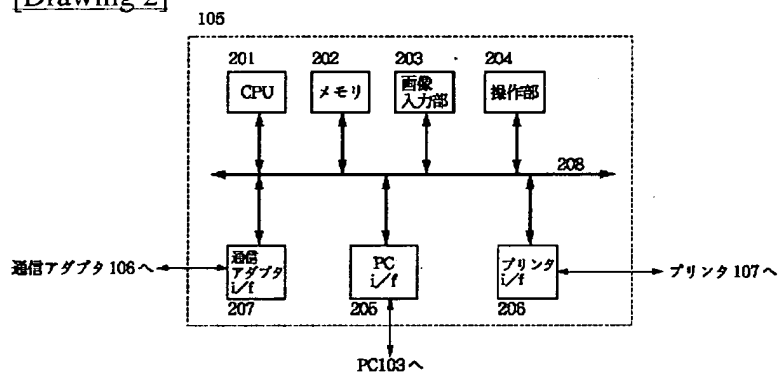
DRAWINGS

[Drawing 1]



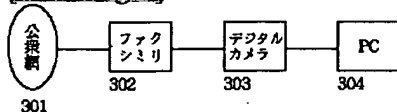
従来の画像通信システム構成図

[Drawing 2]



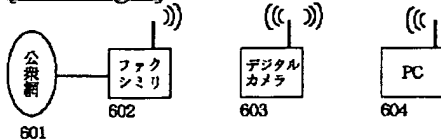
従来のデジタルカメラの構成図

[Drawing 3]



第一の実施の形態の画像通信システム

[Drawing 6]



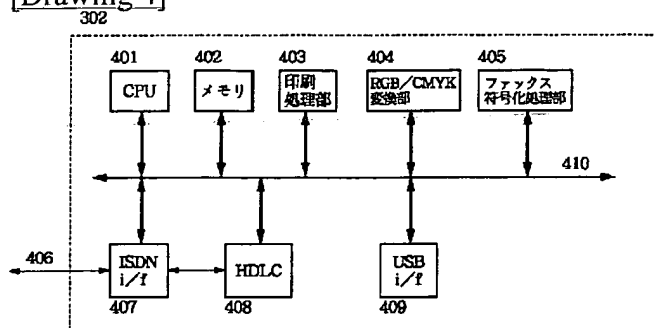
第二の実施の形態の画像通信システム

[Drawing 10]

TC	T2	T3	T4	RC	R2	R3	R4
----	----	----	----	----	----	----	----

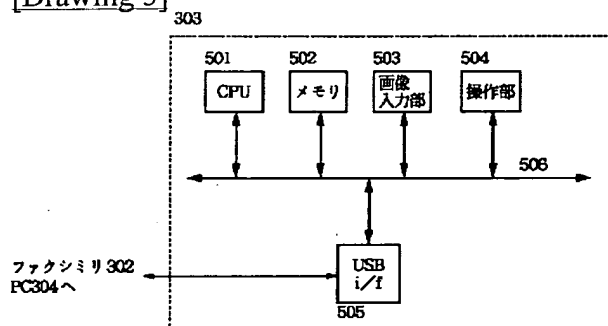
PHSにおける時分割多重無線フレーム

[Drawing 4]



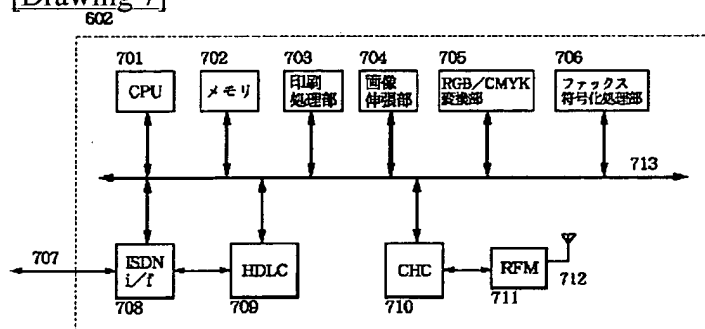
第1の実施の形態のファクシミリ装置の構成図

[Drawing 5]



第1の実施の形態のデジタルカメラの構成図

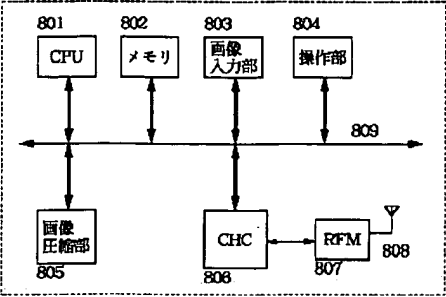
[Drawing 7]



第2の実施の形態のファクシミリ装置の構成図

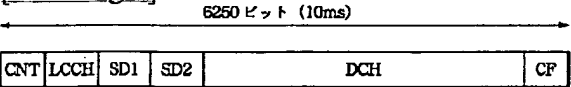
[Drawing 8]

603

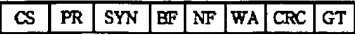


第2の実施の形態のデジタルカメラの構成図

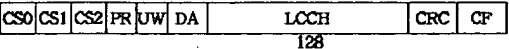
[Drawing 9]



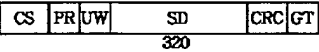
システム制御チャンネル (CNT)



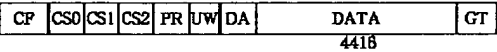
回線制御チャンネル (LCCH)



低速データチャンネル (SD)

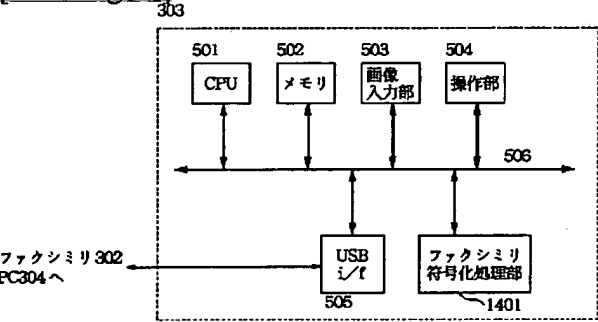


高速データチャンネル (DCH)



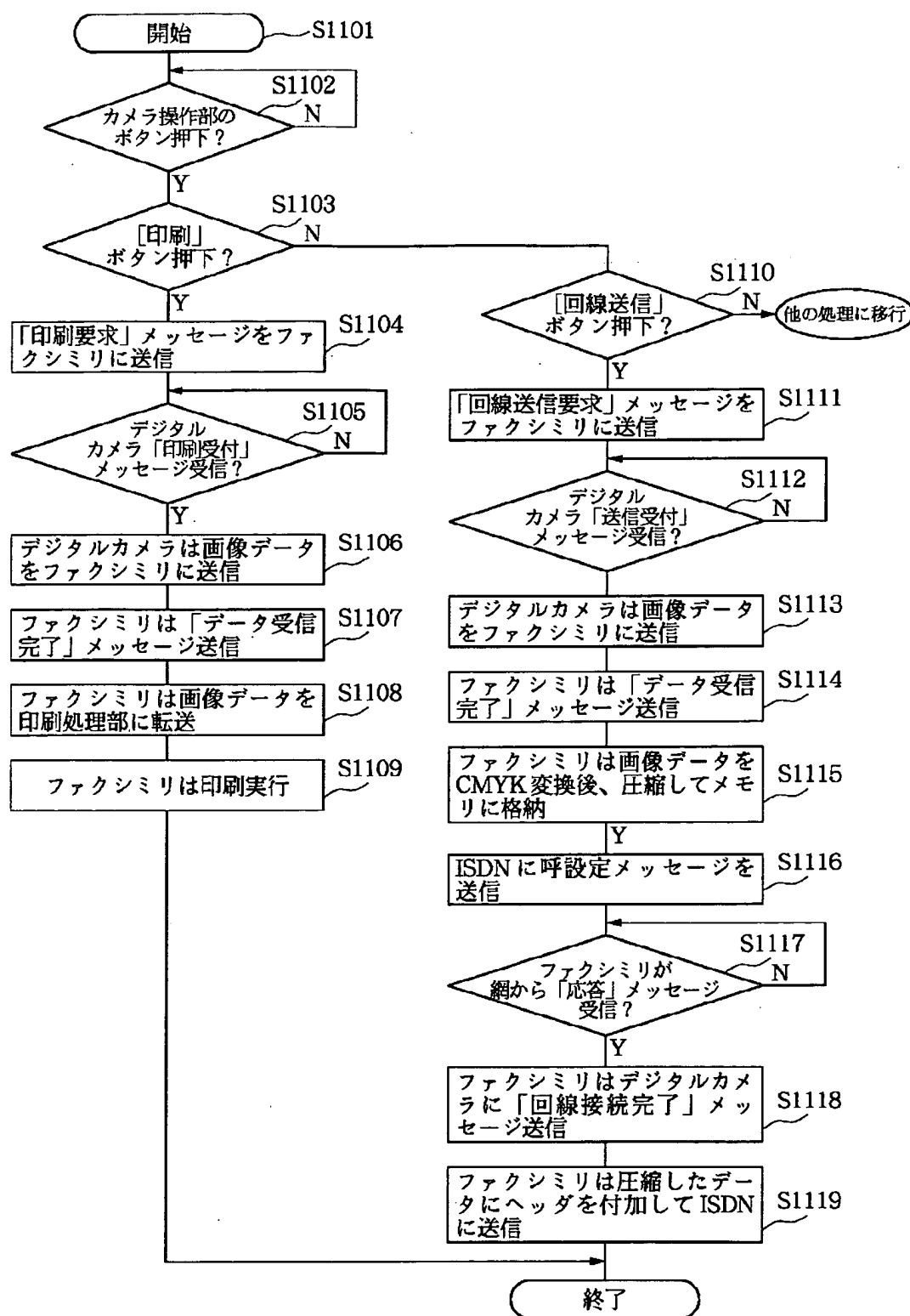
第2の実施の形態における時分割多重無線フレーム

[Drawing 14]



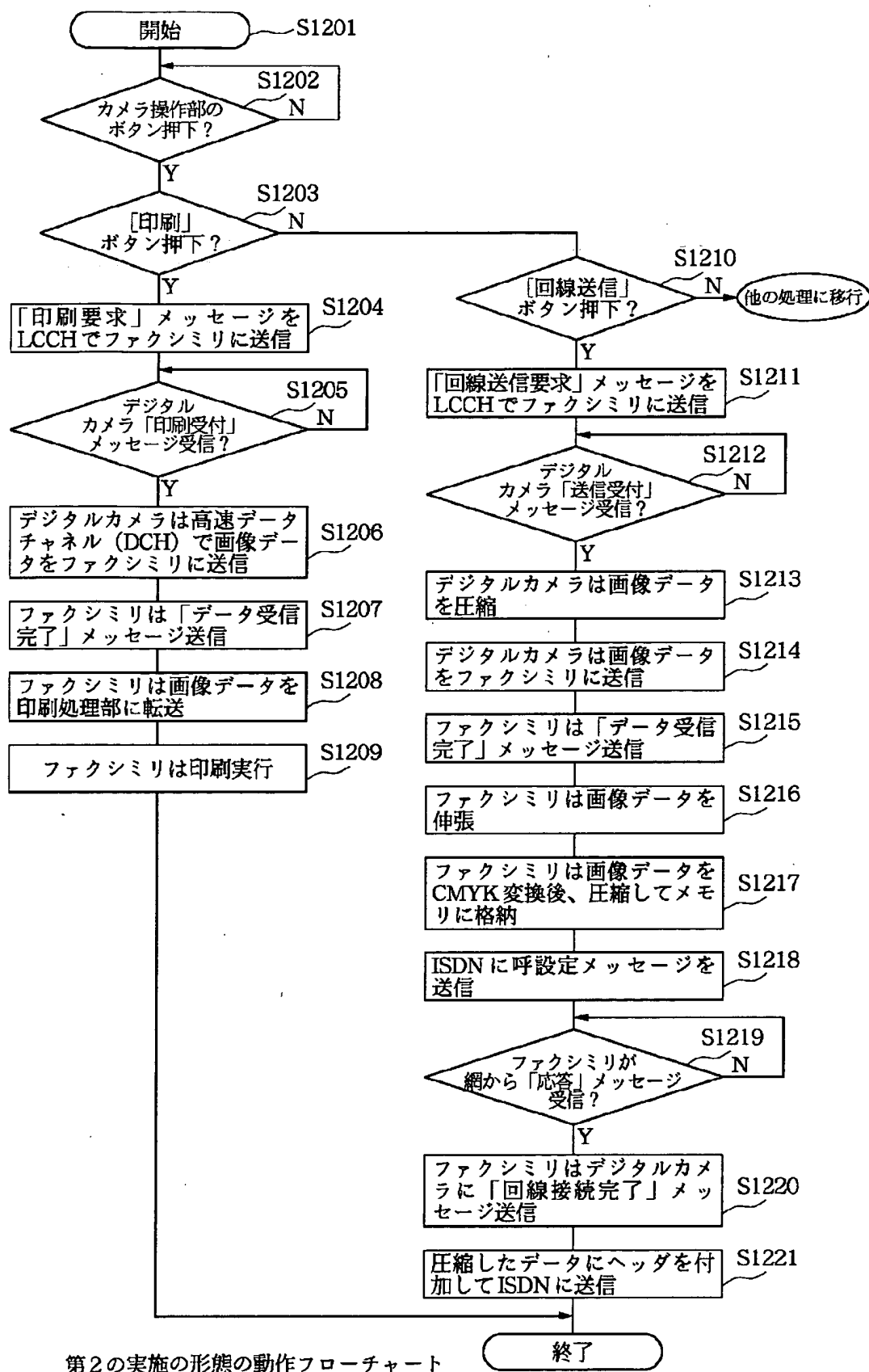
第3の実施の形態のデジタルカメラの構成図

[Drawing 11]

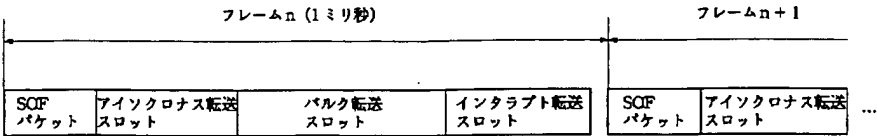


第1の実施の形態の動作フローチャート

[Drawing 12]

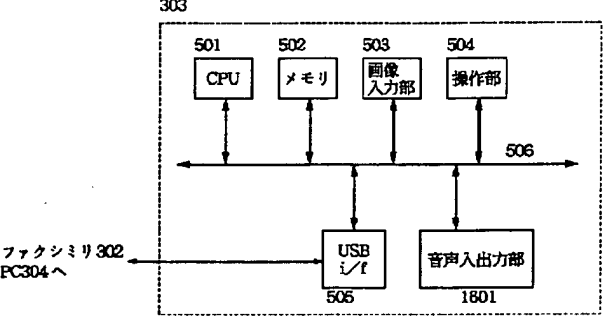


[Drawing 13]



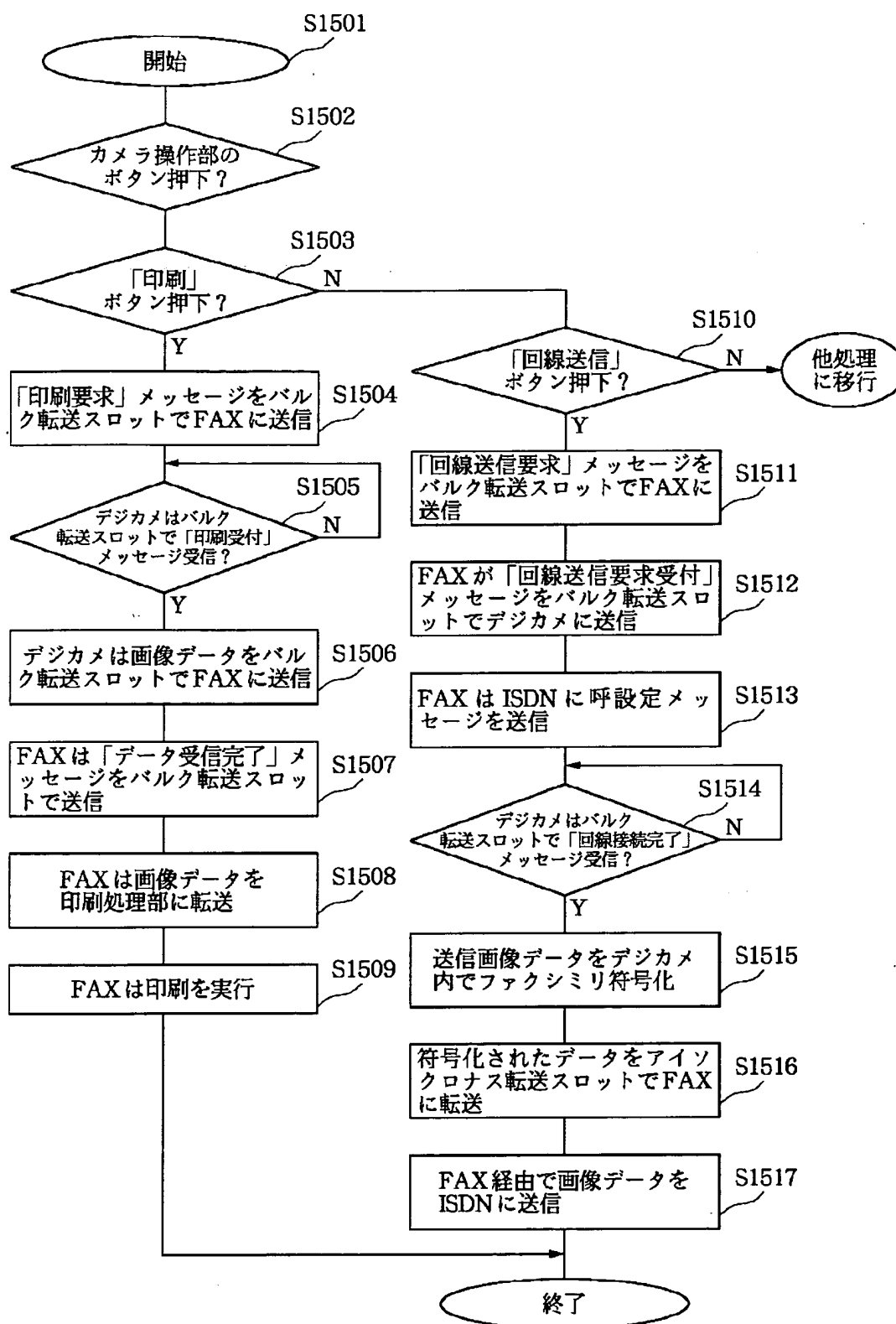
USBのフレーム構成図

[Drawing 16]



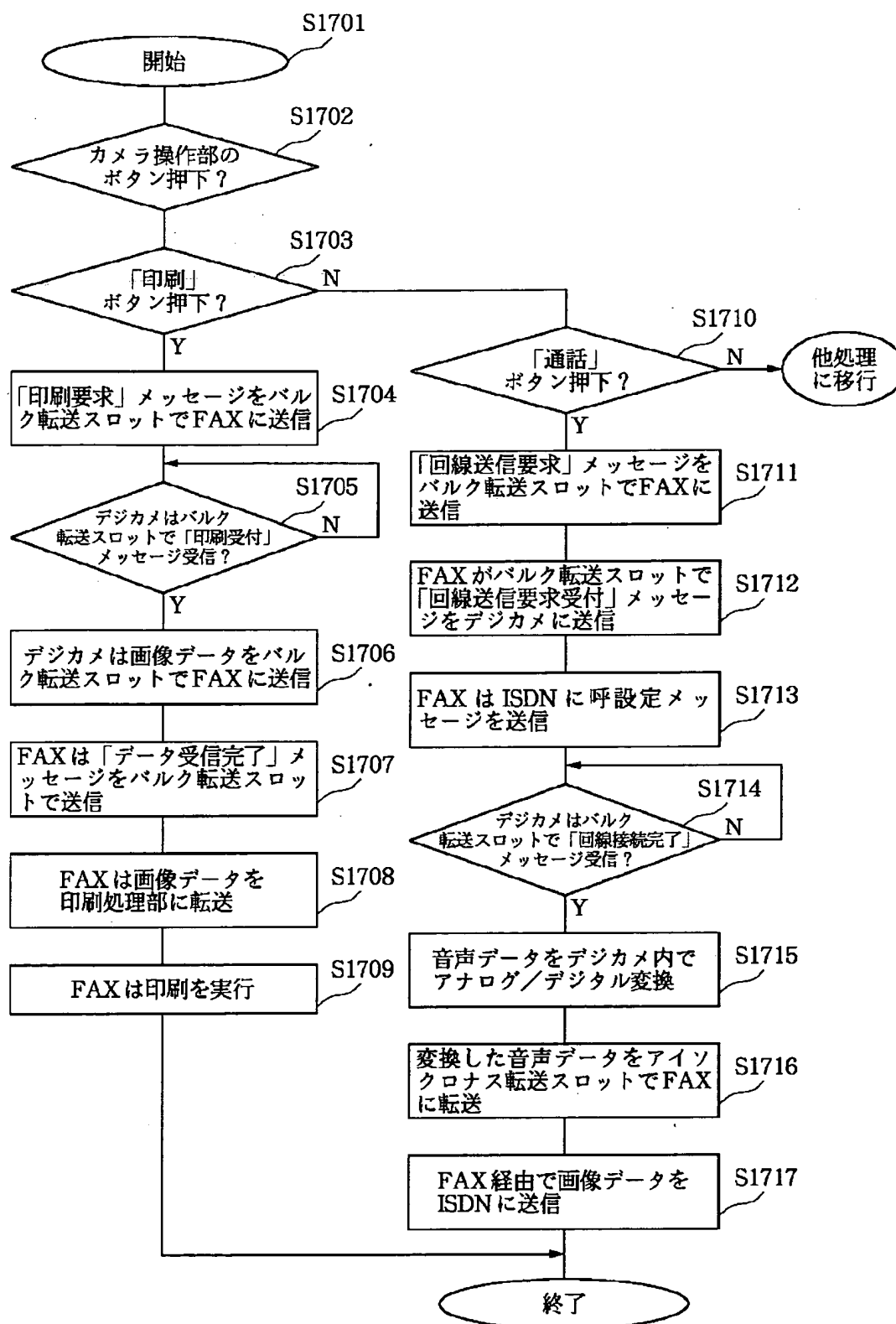
第4の実施の形態のデジタルカメラの構成図

[Drawing 15]



第3の実施の形態の動作フローチャート

[Drawing 17]



第3の実施の形態の動作フローチャート

[Translation done.]

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CLAIMS

[Claim(s)]

[Claim 1] In the image communication system which has the means of communications which communicates through a communication line, the communication device which has the visible output means which carries out the visible output of the image, and the picture input device which inputs an image The selection means which chooses whether said picture input device carries out the visible output of the image data, or it transmits through a communication line, The 1st [according to selection of said selection means] transmitting means which transmits the 1st and 2nd control signals at least, It has the 2nd transmitting means which transmits said image data to said communication device. Said communication device The 1st receiving means which receives the control signal transmitted from said picture input device, The 2nd receiving means which receives the image data transmitted from said picture input device, If the control signal received with said 1st receiving means is said 1st control signal If the control signal which carried out the visible output of the image data which received with said 2nd receiving means with said visible output means, and was received with said 1st receiving means is said 2nd control signal The image communication system characterized by having the control means which controls the image data which received with said 2nd receiving means to communicate by said means of communications.

[Claim 2] It is the image communication system characterized by having the conversion means which carries out conversion according to the control signal which received the image data which received said communication device with said 2nd receiving means in claim 1 with said 1st receiving means.

[Claim 3] It is the image communication system which said picture input device has a compression means to compress image data, in claim 1, and is characterized by transmitting it to said communication device after said 2nd transmitting means compresses image data using said compression means, when transmitting to said communication device without compressing image data, in carrying out the visible output of the image data, and transmitting through a communication line.

[Claim 4] It is the image communication system characterized by said 1st transmitting means and the 2nd transmitting means, said 1st receiving means, and the 2nd receiving means communicating in claim 1 using a radio circuit.

[Claim 5] The image communication system characterized by transmitting image data to said communication device using the radio circuit of a different capacity in claim 4 by the case where the visible output of said image data is carried out, and the case where it transmits through a communication line.

[Claim 6] It is the image communication system characterized by having a compression means to compress image data with compressibility different, respectively by the case where said picture input device carries out the visible output of the image data in claim 1, and the case where it transmits through a communication line.

[Claim 7] It is the image communication system characterized by transmitting said image data using many radio circuits rather than the case where it transmits through a communication line when said 2nd transmitting means carries out the visible output of said image data in claim 4.

[Claim 8] It is the image communication system which said radio circuit has the Time-Division-Multiplexing radio circuit which consists of two or more wireless slots in claim 4, and is characterized by said 2nd receiving means receiving said image data using a different number according to the control signal received with said 1st receiving means of wireless slots.

[Claim 9] When said visible output means performs a printout in claim 1, it is the image communication system characterized by performing a visible output.

[Claim 10] It is the image communication system characterized by said picture input device being a digital camera in claim 1.

[Claim 11] It is pictorial communication equipment characterized by said communication device being facsimile apparatus in claim 1.

[Claim 12] It is the image communication system characterized by connecting said picture input device and said communication device in claim 1 using USB (Universal Serial Bus).

[Claim 13] Said 2nd transmitting means is an image communication system characterized by transmitting said image data using the transfer slot of the classification from which said USB differs in claim 12 according to selection of said selection means.

[Claim 14] It is the image communication system characterized by the transfer slot of said different classification being the bulk transfer slot of said USB, an isochronous transfer slot, or at least two transfer slots in an interrupt transfer slot in claim 13.

[Claim 15] It is the image communication system characterized by for said picture input device to have the facsimile coding processing means which carries out facsimile coding of said image data when transmitting said image data through a communication line in claim 12, and for said 2nd transmitting means to transmit the image data encoded by said facsimile coding processing means using the isochronous transfer slot of said USB, and to transmit the image data which is not encoded by said facsimile coding processing means using the bulk transfer slot of said USB.

[Claim 16] The image data which the voice which said picture input device has the voice communication means which communicates voice in claim 12, and communicates with said voice communication means communicates using the isochronous transfer slot of said USB, and is transmitted by said 2nd transmitting means is an image communication system characterized by being transmitted using said USB bulk transfer slot.

[Claim 17] In the control approach of an image communication system of having the communication device which has the communication facility which communicates through a communication line, and the visible output function which carries out the visible output of the image, and the picture input device which inputs an image The selection process which chooses whether said picture input device carries out the visible output of the image data, or it transmits through a communication line, The 1st [according to selection of said selection process] transmitting process the 1st and 2nd control signals are made to transmit at least, It has the 2nd transmitting process which transmits said image data to said communication device. Said communication device The 1st receiving process which makes the control signal transmitted from said picture input device receive, The 2nd receiving process which makes the image data transmitted from said picture input device receive, If the control signal received in said 1st receiving process is said 1st control signal If the control signal which carried out the visible output of the image data received in said 2nd receiving process using said visible output function, and was received in said 1st receiving process is said 2nd control signal The control approach of the image communication system characterized by having the control process which controls the image data received in said 2nd receiving process to communicate using said communication facility.

[Claim 18] Said communication device is the control approach of the image communication system characterized by having the conversion process which carries out conversion according to the control signal received in said 1st receiving process in the image data received [in / on claim 17 and / said 2nd receiving process].

[Claim 19] It is the control approach of the image communication system which said picture input device has the pressing operation which compresses image data in claim 17, and is characterized by making it transmit to said communication device after said 2nd transmitting process compresses image

data by said pressing operation, when making it transmit to said communication device without compressing image data, in carrying out the visible output of the image data, and transmitting through a communication line.

[Claim 20] It is the control approach of the image communication system characterized by performing the communication link in said 1st transmitting process and the 2nd transmitting process, said 1st receiving process, and the 2nd receiving process using a radio circuit in claim 17.

[Claim 21] It is the control approach of the image communication system characterized by making image data transmit to said communication device using the radio circuit of a different capacity by the case where said 2nd transmitting process carries out the visible output of said image data in claim 20, and the case where it transmits through a communication line.

[Claim 22] It is the control approach of the image communication system characterized by having the pressing operation which compresses image data with compressibility different, respectively by the case where said picture input device carries out the visible output of the image data in claim 17, and the case where it transmits through a communication line.

[Claim 23] It is the control approach of the image communication system characterized by transmitting said image data using many radio circuits rather than the case where it transmits through a communication line when said 2nd transmitting process carries out the visible output of said image data in claim 20.

[Claim 24] It is the control approach of the image communication system which said radio circuit has the Time-Division-Multiplexing radio channel which consists of two or more wireless slots in claim 20, and is characterized by said 2nd receiving process making said image data receive using a different number according to the control signal received in said 1st receiving process of wireless slots.

[Claim 25] When said visible output function performs a printout in claim 17, it is the control approach of the image communication system characterized by performing a visible output.

[Claim 26] It is the control approach of the image communication system characterized by said picture input device being a digital camera in claim 17.

[Claim 27] It is the control approach of the pictorial communication equipment characterized by said communication device being facsimile apparatus in claim 17.

[Claim 28] It is the control approach of the image communication system characterized by connecting said picture input device and said communication device in claim 17 using USB (Universal Serial Bus).

[Claim 29] Said 2nd transmitting process is the control approach of the image communication system characterized by making said image data transmit using the transfer slot of the classification from which said USB differs in claim 28 according to selection of said selection process.

[Claim 30] It is the control approach of the image communication system characterized by the transfer slot of said different classification being the bulk transfer slot of said USB, an isochronous transfer slot, or at least two transfer slots in an interrupt transfer slot in claim 29.

[Claim 31] In claim 28 the control approach of said picture input device When transmitting said image data through a communication line, it has facsimile coding down stream processing which carries out facsimile coding of said image data. Said 2nd transmitting process The image data encoded in said facsimile coding down stream processing is made to transmit using the isochronous transfer slot of said USB. The control approach of the image communication system characterized by making the image data which is not encoded in said facsimile coding down stream processing transmit using the bulk transfer slot of said USB.

[Claim 32] The image data which the voice which the control approach of said picture input device has the voice communication process which makes voice communicate in claim 28, and communicates in said voice communication process is made to communicate using the isochronous transfer slot of said USB, and is transmitted in said 2nd transmitting process is the control approach of the image communication system characterized by making it transmit using the bulk transfer slot of said USB.

[Claim 33] In a picture input device connectable with the communication device which has the means of communications which communicates through a communication line, and the visible output means which carries out the visible output of the image The selection means which chooses whether the visible

output of the inputted image data is carried out with said communication device, or it communicates through the communication line connected to said communication device, The picture input device characterized by having the 1st [according to selection of said selection means] transmitting means which transmits the 1st and 2nd control signals at least, and the 2nd transmitting means which transmits said image data to said communication device.

[Claim 34] It is the picture input device which said picture input device has a compression means to compress image data, in claim 33, and is characterized by transmitting it to said communication device after said 2nd transmitting means compresses image data using said compression means, when transmitting to said communication device without compressing image data, in carrying out the visible output of the image data, and transmitting through a communication line.

[Claim 35] It is the picture input device characterized by said 1st transmitting means and the 2nd transmitting means communicating in claim 33 using a radio circuit.

[Claim 36] It is the picture input device characterized by transmitting image data to said communication device using the radio circuit of a different capacity by the case where said 2nd transmitting means carries out the visible output of said image data in claim 35, and the case where it transmits through a communication line.

[Claim 37] It is the picture input device characterized by having a compression means to compress image data with compressibility different, respectively by the case where said picture input device carries out the visible output of the image data in claim 33, and the case where it transmits through a communication line.

[Claim 38] It is the picture input device characterized by transmitting said image data using many radio circuits rather than the case where it transmits through a communication line when said 2nd transmitting means carries out the visible output of said image data in claim 35.

[Claim 39] It is the picture input device which said radio circuit has the Time-Division-Multiplexing radio channel which consists of two or more wireless slots in claim 35, and is characterized by said 2nd transmitting means transmitting said image data using a different number according to the control signal transmitted with said 1st transmitting means of wireless slots.

[Claim 40] It is the image picture input device characterized by said picture input device being a digital camera in claim 33.

[Claim 41] It is the picture input device characterized by connecting said picture input device and said communication device in claim 33 using USB (Universal Serial Bus).

[Claim 42] Said 2nd transmitting means is a picture input device characterized by transmitting said image data using the transfer slot of the classification from which said USB differs in claim 41 according to selection of said selection means.

[Claim 43] It is the picture input device characterized by the transfer slot of said different classification being the bulk transfer slot of said USB, an isochronous transfer slot, or at least two transfer slots in an interrupt transfer slot in claim 42.

[Claim 44] It is the picture input device characterized by for said picture input device to have the facsimile coding processing means which carries out facsimile coding of said image data when transmitting said image data through a communication line in claim 41, and for said 2nd transmitting means to transmit the image data encoded by said facsimile coding processing means using the isochronous transfer slot of said USB, and to transmit the image data which is not encoded by said facsimile coding processing means using the bulk transfer slot of said USB.

[Claim 45] The image data which the voice which said picture input device has the voice communication means which communicates voice in claim 41, and communicates with said voice communication means communicates using the isochronous transfer slot of said USB, and is transmitted by said 2nd transmitting means is a picture input device characterized by being transmitted using said USB bulk transfer slot.

[Claim 46] In the communication device which has the means of communications which can connect with a picture input device and communicates through a communication line, and the visible output means which carries out the visible output of the image The 1st control signal transmitted from said

picture input device according to whether the visible output of the image data is carried out, or it transmits through a communication line, Or the 1st receiving means which receives the 2nd control signal and the 2nd receiving means which receives the image data transmitted from said picture input device, If the control signal received with said 1st receiving means is said 1st control signal If the control signal which carried out the visible output of the ***** which received with said 2nd receiving means with said visible output means, and was received with said 1st receiving means is said 2nd control signal The communication device characterized by having the control means which controls the image data which received with said 2nd receiving means to communicate by said means of communications.

[Claim 47] It is the communication device characterized by having the conversion means which carries out conversion according to the control signal which received the image data which received said communication device with said 2nd receiving means in claim 46 with said 1st receiving means.

[Claim 48] It is the communication device characterized by said 1st receiving means and the 2nd receiving means communicating in claim 46 using a radio circuit.

[Claim 49] It is the communication device characterized by receiving image data by the radio circuit of a different capacity by the case where said 2nd receiving means carries out the visible output of said image data in claim 48, and the case where it transmits through a communication line.

[Claim 50] It is the communication device characterized by receiving the image data of compressibility different, respectively by the case where said 2nd receiving means carries out the visible output of the image data in claim 46, and the case where it transmits through a communication line.

[Claim 51] It is the communication device characterized by receiving said image data using many radio circuits rather than the case where it transmits through a communication line when said 2nd receiving means carries out the visible output of said image data in claim 48.

[Claim 52] It is the communication device which said radio circuit has the Time-Division-Multiplexing radio circuit which consists of two or more wireless slots in claim 48, and is characterized by said 2nd receiving means receiving said image data using a different number according to the control signal received with said 1st receiving means of wireless slots.

[Claim 53] When said visible output means performs a printout in claim 46, it is the communication device characterized by performing a visible output.

[Claim 54] It is the communication device characterized by said communication device being facsimile apparatus in claim 46.

[Claim 55] It is the communication device characterized by connecting said picture input device and said communication device in claim 46 using USB (Universal Serial Bus).

[Claim 56] According to whether in claim 55, said 2nd receiving means carries out the visible output of the image data, or it transmits through a communication line, it is the communication device characterized by receiving said image data using the transfer slot of the classification from which said USB differs.

[Claim 57] It is the communication device characterized by the transfer slot of said different classification being the bulk transfer slot of said USB, an isochronous transfer slot, or at least two transfer slots in an interrupt transfer slot in claim 56.

[Claim 58] It is the communication device characterized by receiving said image data using the bulk transfer slot of said USB when receiving said image data using the isochronous transfer slot of said USB in receiving the image data by which facsimile coding of said 2nd receiving means was carried out by said picture input device in claim 55, and receiving said image data by which facsimile coding is not carried out.

[Claim 59] The image data which the voice which said communication device has the voice communication means which communicates the voice which communicates by said picture input device in claim 55, and communicates with said voice communication means is made to communicate using the isochronous transfer slot of said USB, and is received by said 2nd receiving means is a communication device characterized by being transmitted using the bulk transfer slot of said USB.

[Claim 60] In the control approach of a picture input device which can connect with the communication

device which has the communication facility which communicates through a communication line, and the visible output function which carries out the visible output of the image. The selection process which chooses whether the visible output of the inputted image data is carried out with said communication device, or it transmits through the communication line connected to said communication device. The control approach of the picture input device characterized by having the 1st [according to the selection in said selection process] transmitting process the 1st and 2nd control signals are made to transmit at least, and the 2nd transmitting process which makes said image data transmit to said communication device.

[Claim 61] It is the control approach of the picture input device which the control approach of said picture input device has the pressing operation which compresses image data in claim 60, and is characterized by making it transmit to said communication device after said 2nd transmitting process compresses image data in said pressing operation, when making it transmit to said communication device without compressing image data, in carrying out the visible output of the image data, and transmitting through a communication line.

[Claim 62] It is the control approach of the picture input device characterized by making said 1st transmitting process and the 2nd transmitting process communicate in claim 60 using a radio circuit.

[Claim 63] It is the control approach of the picture input device characterized by making image data transmit to said communication device using the radio circuit of a different capacity by the case where said 2nd transmitting process carries out the visible output of said image data in claim 62, and the case where it transmits through a communication line.

[Claim 64] It is the control approach of the picture input device characterized by having the pressing operation which compresses image data with compressibility different, respectively by the case where the control approach of said picture input device carries out the visible output of the image data in claim 60, and the case where it transmits through a communication line.

[Claim 65] It is the control approach of the picture input device characterized by transmitting said image data using many radio circuits rather than the case where it transmits through a communication line when said 2nd transmitting process carries out the visible output of said image data in claim 62.

[Claim 66] It is the control approach of the picture input device which said radio circuit has the Time-Division-Multiplexing radio channel which consists of two or more wireless slots in claim 62, and is characterized by said 2nd transmitting process making said image data transmit using a different number according to the control signal to which it was made to transmit at said 1st transmitting process of wireless slots.

[Claim 67] It is the control approach of the picture input device characterized by said picture input device being a digital camera in claim 60.

[Claim 68] It is the control approach of the picture input device characterized by connecting said picture input device and said communication device in claim 60 using USB (Universal Serial Bus).

[Claim 69] Said 2nd transmitting process is the control approach of the picture input device characterized by making said image data transmit using the transfer slot of the classification from which said USB differs in claim 68 according to selection of said selection process.

[Claim 70] It is the control approach of the picture input device characterized by the transfer slot of said different classification being the bulk transfer slot of said USB, an isochronous transfer slot, or at least two transfer slots in an interrupt transfer slot in claim 69.

[Claim 71] In claim 68 the control approach of said picture input device. When transmitting said image data through a communication line, it has facsimile coding down stream processing which carries out facsimile coding of said image data. Said 2nd transmitting process. The image data encoded in said facsimile coding down stream processing is made to transmit using the isochronous transfer slot of said USB. The control approach of the picture input device characterized by making the image data which is not encoded in said facsimile coding down stream processing transmit using the bulk transfer slot of said USB.

[Claim 72] The image data which the voice which the control approach of said picture input device has the voice communication process which makes voice communicate in claim 68, and communicates in

said voice communication process communicates using the isochronous transfer slot of said USB, and is transmitted according to said 2nd transmitting process is the control approach of the picture input device characterized by being transmitted using said USB bulk transfer slot.

[Claim 73] In the control approach of a communication device of having the communication link process which can connect with a picture input device and is made communicating through a communication line, and the visible output process which carries out the visible output of the image The 1st control signal transmitted from said picture input device according to whether the visible output of the image data is carried out, or it transmits through a communication line, Or the 1st receiving process which makes the 2nd control signal receive and the 2nd receiving process which makes the image data transmitted from said picture input device receive, If the control signal received in said 1st receiving process is said 1st control signal If the control signal which carried out the visible output of the ***** received in said 2nd receiving process according to said visible output process, and was received in said 1st receiving process is said 2nd control signal The control approach of the communication device characterized by having the control process controlled to make the image data received in said 2nd receiving process communicate in said communication link process.

[Claim 74] The control approach of said communication device is the control approach of the communication device characterized by having the conversion process which carries out conversion according to the control signal received in said 1st receiving process in the image data received [in / on claim 73 and / said 2nd receiving process].

[Claim 75] It is the control approach of the communication device characterized by making said 1st receiving process and the 2nd receiving process communicate in claim 73 using a radio circuit.

[Claim 76] It is the control approach of the communication device characterized by making image data receive by the radio circuit of a different capacity by the case where said 2nd receiving process carries out the visible output of said image data in claim 75, and the case where it transmits through a communication line.

[Claim 77] It is the control approach of the communication device characterized by making the image data of compressibility different, respectively receive by the case where said 2nd receiving process carries out the visible output of the image data in claim 73, and the case where it transmits through a communication line.

[Claim 78] It is the control approach of the communication device characterized by making said image data receive using many radio circuits rather than the case where it transmits through a communication line when said 2nd receiving process carries out the visible output of said image data in claim 75.

[Claim 79] It is the control approach of the communication device which said radio circuit has the Time-Division-Multiplexing radio channel which consists of two or more wireless slots in claim 75, and is characterized by said 2nd receiving process making said image data receive using a different number according to the control signal received in said 1st receiving process of wireless slots.

[Claim 80] When said visible output process performs a printout in claim 73, it is the control unit of the communication device characterized by performing a visible output.

[Claim 81] It is the control approach of the communication device characterized by said communication device being facsimile apparatus in claim 73.

[Claim 82] It is the control approach of the communication device characterized by connecting said picture input device and said communication device in claim 73 using USB (Universal Serial Bus).

[Claim 83] According to whether in claim 82, said 2nd receiving process carries out the visible output of the image data, or it transmits through a communication line, it is the control approach of the communication device characterized by making said image data receive using the transfer slot of the classification from which said USB differs.

[Claim 84] It is the control approach of the communication device characterized by the transfer slot of said different classification being the bulk transfer slot of said USB, an isochronous transfer slot, or at least two transfer slots in an interrupt transfer slot in claim 83.

[Claim 85] It is the control approach of the communication device characterized by receiving said image data using the bulk transfer slot of said USB when making said image data receive using the isochronous

transfer slot of said USB when making the image data by which facsimile coding of said 2nd receiving process was carried out by said picture input device in claim 82 receive, and making said image data by which facsimile coding is not carried out receive.

[Claim 86] The image data which the voice which the control approach of said communication device has the voice communication process which makes the voice which communicates by said picture input device communicate in claim 82, and communicates in said voice communication process communicates using the isochronous transfer slot of said USB, and is received according to said 2nd receiving process is the control approach of the communication device characterized by to be transmitted using the bulk transfer slot of said USB.

[Translation done.]

* NOTICES *

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1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

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[Claim 1] In the image communication system which has the communication device which has the visible output means which carries out the visible output of the means of communications and the image which communicate through a communication line, and the picture input device which inputs an image, Said picture input device is a directions means to direct whether to carry out the visible output of the image transmitted from said picture input device with said visible output means which said communication device has, or transmit through a communication line by said means of communications which said communication device has to said communication device,
 It has a transmitting means to transmit the image for making said communication device perform

processing according to directions of said directions means to said communication device,
Said communication device is a receiving means to receive the image transmitted from said picture input device,

The image communication system characterized by having the control means which performs control for transmitting through a communication line by the control for carrying out the visible output of the image received by said receiving means with said visible output means, or said means of communications according to directions by said directions means.

[Claim 2] In claim 1,

Said communication device is an image communication system characterized by having the conversion means which carries out conversion according to directions according the image received with said receiving means to said directions means.

[Claim 3] In claim 1,

Said picture input device has a compression means to compress an image,

Said transmitting means is an image communication system characterized by transmitting to said communication device after compressing an image using said compression means, in transmitting to said communication device without compressing an image, in carrying out the visible output of the image, and transmitting through a communication line.

[Claim 4] In claim 1,

Said transmitting means and said receiving means are an image communication system characterized by communicating using a radio circuit.

[Claim 5] In claim 4,

The image communication system characterized by transmitting an image to said communication device using the radio circuit of a different capacity by the case where the visible output of said image is carried out, and the case where it transmits through a communication line.

[Claim 6] In claim 1,

Said picture input device is an image communication system characterized by having a compression means to compress an image with compressibility different, respectively by the case where the visible output of the image is carried out, and the case where it transmits through a communication line.

[Claim 7] In claim 4,

Said transmitting means is an image communication system characterized by transmitting said image using many radio circuits rather than the case where it transmits through a communication line in carrying out the visible output of said image.

[Claim 8] In claim 4,

Said radio circuit is time-division multiplexing which consists of two or more wireless slots,
Said receiving means is an image communication system characterized by receiving said image using a different number of wireless slots according to directions by said directions means.

[Claim 9] In claim 1,

Said visible output means is an image communication system characterized by performing a visible output by performing a printout.

[Claim 10] In claim 1,

Said picture input device is an image communication system characterized by being a digital camera.

[Claim 11] In claim 1,

Said communication device is pictorial communication equipment characterized by being facsimile apparatus.

[Claim 12] In claim 1,

Said picture input device and said communication device are an image communication system characterized by connecting using USB (Universal Serial Bus).

[Claim 13] In claim 12,

Said transmitting means is an image communication system characterized by transmitting said image using the transfer slot of the classification from which said USB differs according to directions by said directions means.

[Claim 14] In claim 13,

The transfer slot of said different classification is an image communication system characterized by being the bulk transfer slot of said USB, an isochronous transfer slot, or at least two transfer slots in an interrupt transfer slot.

[Claim 15] In claim 12,

Said picture input device has the facsimile coding processing means which carries out facsimile coding of said image, when transmitting said image through a communication line,

Said transmitting means is an image communication system characterized by transmitting the image encoded by said facsimile coding processing means using the isochronous transfer slot of said USB, and transmitting the image which is not encoded by said facsimile coding processing means using the bulk transfer slot of said USB.

[Claim 16] In claim 12,

Said picture input device has the voice communication means which communicates voice,

The image which the voice which communicates with said voice communication means communicates using the isochronous transfer slot of said USB, and is transmitted by said transmitting means is an image communication system characterized by being transmitted using said USB bulk transfer slot.

[Claim 17] In the control approach of an image communication system of having the communication device which has the visible output function which carries out the visible output of the communication facility and the image which communicate through a communication line, and the picture input device which inputs an image,

Said picture input device is a directions process which directs whether to carry out the visible output of the image transmitted from said picture input device by said visible output function which said communication device has, or transmit through a communication line by said communication facility which said communication device has to said communication device,

It has the transmitting process which transmits the image for making said communication device perform processing according to the directions in said directions process to said communication device, Said communication device is a receiving process which receives the image transmitted from said picture input device,

The control approach of the image communication system characterized by having the control process which performs control for transmitting through a communication line by the control for carrying out the visible output of the image received in said receiving process by said visible output function, or said communication facility according to the directions in said directions process.

[Claim 18] In claim 17,

Said communication device is the control approach of the image communication system characterized by having the conversion process which carries out conversion according to directions [in / for the image received in said receiving process / said directions process].

[Claim 19] In claim 17,

Said picture input device can perform the pressing operation which compresses an image,

The control approach of the image communication system characterized by transmitting to said communication device after compressing an image by said pressing operation, in transmitting to said communication device without compressing an image at said transmitting process, in carrying out the visible output of the image, and transmitting through a communication line.

[Claim 20] In claim 17,

It is the control approach of the image communication system characterized by performing the communication link in said transmitting process and said receiving process using a radio circuit.

[Claim 21] In claim 20,

Said transmitting process is the control approach of the image communication system characterized by transmitting an image to said communication device using the radio circuit of a different capacity by the case where the visible output of said image is carried out, and the case where it transmits through a communication line.

[Claim 22] In claim 17,

Said picture input device is the control approach of the image communication system characterized by compressing an image with compressibility different, respectively by the case where the visible output of the image is carried out, and the case where it transmits through a communication line.

[Claim 23] In claim 20,

The control approach of the image communication system characterized by transmitting said image using many radio circuits rather than the case where it transmits through a communication line at said transmitting process when carrying out the visible output of said image.

[Claim 24] In claim 20,

Said radio circuit is time-division multiplexing which consists of two or more wireless slots,

The control approach of the image communication system characterized by receiving said image at said receiving process using a different number of wireless slots according to the directions in said directions process.

[Claim 25] In claim 17,

Said visible output function is the control approach of the image communication system characterized by performing a visible output by performing a printout.

[Claim 26] In claim 17,

Said picture input device is the control approach of the image communication system characterized by being a digital camera.

[Claim 27] In claim 17,

Said communication device is the control approach of the pictorial communication equipment characterized by being facsimile apparatus.

[Claim 28] In claim 17,

Said picture input device and said communication device are the control approach of the image communication system characterized by connecting using USB (Universal Serial Bus).

[Claim 29] In claim 28,

Said transmitting process is the control approach of the image communication system characterized by transmitting said image using the transfer slot of the classification from which said USB differs according to the directions in said directions process.

[Claim 30] In claim 29,

The transfer slot of said different classification is the control approach of the image communication system characterized by being the bulk transfer slot of said USB, an isochronous transfer slot, or at least two transfer slots in an interrupt transfer slot.

[Claim 31] In claim 28,

The control approach of said picture input device has facsimile coding down stream processing which carries out facsimile coding of said image, when transmitting said image through a communication line, Said transmitting process is the control approach of the image communication system characterized by transmitting the image encoded in said facsimile coding down stream processing using the isochronous transfer slot of said USB, and transmitting the image which is not encoded in said facsimile coding down stream processing using the bulk transfer slot of said USB.

[Claim 32] In claim 28,

The image which the voice which the control approach of said picture input device has the voice communication process which makes voice communicate, and communicates in said voice communication process communicates using the isochronous transfer slot of said USB, and is transmitted in said transmitting process is the control approach of the image communication system characterized by being transmitted using the bulk transfer slot of said USB.

[Claim 33] In a picture input device connectable with the communication device which has the visible output means which carries out the visible output of the means of communications and the image which communicate through a communication line,

A directions means to direct whether to carry out the visible output of the image transmitted from said picture input device with said visible output means which said communication device has, or transmit through a communication line by said means of communications which said communication device has

to said communication device,

The picture input device characterized by having a transmitting means to transmit the image for making said communication device perform processing according to directions of said directions means to said communication device.

[Claim 34] In claim 33,

Said picture input device has a compression means to compress an image,

Said transmitting means is a picture input device characterized by transmitting to said communication device after compressing an image using said compression means, in transmitting to said communication device without compressing an image, in carrying out the visible output of the image, and transmitting through a communication line.

[Claim 35] In claim 33,

Said transmitting means is a picture input device characterized by communicating using a radio circuit.

[Claim 36] In claim 35,

Said transmitting means is a picture input device characterized by transmitting an image to said communication device using the radio circuit of a different capacity by the case where the visible output of said image is carried out, and the case where it transmits through a communication line.

[Claim 37] In claim 33,

Said picture input device is a picture input device characterized by having a compression means to compress an image with compressibility different, respectively by the case where the visible output of the image is carried out, and the case where it transmits through a communication line.

[Claim 38] In claim 35,

Said transmitting means is a picture input device characterized by transmitting said image using many radio circuits rather than the case where it transmits through a communication line in carrying out the visible output of said image.

[Claim 39] In claim 35,

Said radio circuit is time-division multiplexing which consists of two or more wireless slots,

Said transmitting means is a picture input device characterized by transmitting said image using a different number of wireless slots according to directions by said directions means.

[Claim 40] In claim 33,

Said picture input device is an image picture input device characterized by being a digital camera.

[Claim 41] In claim 33,

Said picture input device and said communication device are a picture input device characterized by connecting using USB (Universal Serial Bus).

[Claim 42] In claim 41,

Said transmitting means is a picture input device characterized by transmitting said image using the transfer slot of the classification from which said USB differs according to directions by said directions means.

[Claim 43] In claim 42,

The transfer slot of said different classification is a picture input device characterized by being the bulk transfer slot of said USB, an isochronous transfer slot, or at least two transfer slots in an interrupt transfer slot.

[Claim 44] In claim 41,

Said picture input device has the facsimile coding processing means which carries out facsimile coding of said image, when transmitting said image through a communication line,

Said transmitting means is a picture input device characterized by transmitting the image encoded by said facsimile coding processing means using the isochronous transfer slot of said USB, and transmitting the image which is not encoded by said facsimile coding processing means using the bulk transfer slot of said USB.

[Claim 45] In claim 41,

Said picture input device has the voice communication means which communicates voice,

The image which the voice which communicates with said voice communication means communicates

using the isochronous transfer slot of said USB, and is transmitted by said transmitting means is a picture input device characterized by being transmitted using said USB bulk transfer slot.

[Claim 46] In the communication device which has the means of communications which can connect with a picture input device and communicates through a communication line, and the visible output means which carries out the visible output of the image,

A receiving means to receive directions of whether the visible output of the image received from said picture input device is carried out with said visible output means, or to transmit through a communication line by said means of communications from said picture input device,

The communication device characterized by having the control means which performs control for transmitting through a communication line by the control for carrying out the visible output of the image received from said picture input device with said visible output means, or said means of communications according to the directions received with said receiving means.

[Claim 47] In claim 46,

Said communication device is a communication device characterized by having the conversion means which carries out conversion according to the directions which received the image received from said picture input device with said receiving means.

[Claim 48] In claim 46,

Said communication device and picture input device are a communication device characterized by communicating using a radio circuit.

[Claim 49] In claim 48,

The communication device characterized by receiving an image by the radio circuit of a different capacity by the case where the visible output of said image is carried out, and the case where it transmits through a communication line.

[Claim 50] In claim 46,

The communication device characterized by receiving the image of compressibility different, respectively by the case where the visible output of the image is carried out, and the case where it transmits through a communication line.

[Claim 51] In claim 48,

The communication device characterized by receiving said image using many radio circuits rather than the case where it transmits through a communication line in carrying out the visible output of said image.

[Claim 52] In claim 48,

Said radio circuit is time-division multiplexing which consists of two or more wireless slots,

The communication device characterized by receiving said image using a different number of wireless slots according to the directions received with said receiving means.

[Claim 53] In claim 46,

Said visible output means is a communication device characterized by performing a visible output by performing a printout.

[Claim 54] In claim 46,

Said communication device is a communication device characterized by being facsimile apparatus.

[Claim 55] In claim 46,

Said picture input device and said communication device are a communication device characterized by connecting using USB (Universal Serial Bus).

[Claim 56] In claim 55,

The communication device characterized by receiving said image using the transfer slot of the classification from which said USB differs according to whether the visible output of the image data is carried out, or it transmits through a communication line.

[Claim 57] In claim 56,

The transfer slot of said different classification is a communication device characterized by being the bulk transfer slot of said USB, an isochronous transfer slot, or at least two transfer slots in an interrupt transfer slot.

[Claim 58] In claim 55,

The communication device characterized by receiving said image using the bulk transfer slot of said USB when receiving said image using the isochronous transfer slot of said USB in receiving the image in which facsimile coding was carried out by said picture input device, and receiving said image by which facsimile coding is not carried out.

[Claim 59] In claim 55,

Said communication device has the voice communication means which communicates the voice which communicates by said picture input device,

It is the communication device which the voice which communicates with said voice communication means is made to communicate using the isochronous transfer slot of said USB, and is characterized by transmitting said image using the bulk transfer slot of said USB.

[Claim 60] In the control approach of a picture input device which can connect with the communication device which has the visible output function which carries out the visible output of the communication facility and the image which communicate through a communication line,

The directions process which directs whether to carry out the visible output of the image transmitted from said picture input device by said visible output function which said communication device has, or transmit through a communication line by said communication facility which said communication device has to said communication device,

The control approach of the picture input device characterized by having the transmitting process which transmits the image for making said communication device perform processing according to the directions in said directions process to said communication device.

[Claim 61] In claim 60,

The control approach of said picture input device has the pressing operation which compresses an image,

The control approach of the picture input device characterized by transmitting to said communication device after compressing an image in said pressing operation, in transmitting to said communication device without compressing an image at said transmitting process, in carrying out the visible output of the image, and transmitting through a communication line.

[Claim 62] In claim 60,

Said transmitting process is the control approach of the picture input device characterized by communicating using a radio circuit.

[Claim 63] In claim 62,

Said transmitting process is the control approach of the picture input device characterized by transmitting an image to said communication device using the radio circuit of a different capacity by the case where the visible output of said image is carried out, and the case where it transmits through a communication line.

[Claim 64] In claim 60,

The control approach of said picture input device is the control approach of the picture input device characterized by compressing an image with compressibility different, respectively by the case where the visible output of the image is carried out, and the case where it transmits through a communication line.

[Claim 65] In claim 62,

Said transmitting process is the control approach of the picture input device characterized by transmitting said image using many radio circuits rather than the case where it transmits through a communication line in carrying out the visible output of said image.

[Claim 66] In claim 62,

Said radio circuit is time-division multiplexing which consists of two or more wireless slots, Said transmitting process is the control approach of the picture input device characterized by transmitting said image using a different number of wireless slots according to the directions in said directions process.

[Claim 67] In claim 60,

Said picture input device is the control approach of the picture input device characterized by being a digital camera.

[Claim 68] In claim 60,

Said picture input device and said communication device are the control approach of the picture input device characterized by connecting using USB (Universal Serial Bus).

[Claim 69] In claim 68,

Said transmitting process is the control approach of the picture input device characterized by transmitting said image using the transfer slot of the classification from which said USB differs according to the directions in said directions process.

[Claim 70] In claim 69,

The transfer slot of said different classification is the control approach of the picture input device characterized by being the bulk transfer slot of said USB, an isochronous transfer slot, or at least two transfer slots in an interrupt transfer slot.

[Claim 71] In claim 68,

The control approach of said picture input device has facsimile coding down stream processing which carries out facsimile coding of said image, when transmitting said image through a communication line, The control approach of the picture input device characterized by transmitting the image encoded in said facsimile coding down stream processing at said transmitting process using the isochronous transfer slot of said USB, and transmitting the image which is not encoded in said facsimile coding down stream processing using the bulk transfer slot of said USB.

[Claim 72] In claim 68,

The image which the voice which the control approach of said picture input device has the voice communication process which makes voice communicate, and communicates in said voice communication process communicates using the isochronous transfer slot of said USB, and is transmitted in said transmitting process is the control approach of the picture input device characterized by being transmitted using said USB bulk transfer slot.

[Claim 73] In the control approach of a communication device of having the means of communications which can connect with a picture input device and carries out the line of the communication link through a communication line, and the visible output means which carries out the visible output of the image,

The receiving process which receives directions of whether the visible output of the image received from said picture input device is carried out with said visible output means, or to transmit through a communication line by said means of communications from said picture input device,

The control approach of the communication device characterized by having the control process which performs control for transmitting through a communication line by the control for carrying out the visible output of the image received from said picture input device with said visible output means, or said means of communications according to the directions received in said receiving process.

[Claim 74] In claim 73,

The control approach of said communication device is the control approach of the communication device characterized by changing according to the directions which received from said picture input device and received the image in said receiving process.

[Claim 75] In claim 73,

Said communication device and picture input device are the control approach of the communication device characterized by communicating using a radio circuit.

[Claim 76] In claim 75,

The control approach of the communication device characterized by receiving an image by the radio circuit of a different capacity by the case where the visible output of said image data is carried out, and the case where it transmits through a communication line.

[Claim 77] In claim 73,

The control approach of the communication device characterized by receiving the image of compressibility different, respectively by the case where the visible output of the image is carried out, and the case where it transmits through a communication line.

[Claim 78] In claim 75,

The control approach of the communication device characterized by receiving said image using many radio circuits rather than the case where it transmits through a communication line in carrying out the visible output of said image.

[Claim 79] In claim 75,

Said radio circuit is time-division multiplexing which consists of two or more wireless slots,

The control approach of the communication device characterized by receiving said image using a different number of wireless slots according to the directions received in said receiving process.

[Claim 80] In claim 73,

Said visible output means is the control unit of the communication device characterized by performing a visible output by performing a printout.

[Claim 81] In claim 73,

Said communication device is the control approach of the communication device characterized by being facsimile apparatus.

[Claim 82] In claim 73,

Said picture input device and said communication device are the control approach of the communication device characterized by connecting using USB (Universal Serial Bus).

[Claim 83] In claim 82,

The control approach of the communication device characterized by receiving said image using the transfer slot of the classification from which said USB differs according to whether the visible output of the image is carried out, or it transmits through a communication line.

[Claim 84] In claim 83,

The transfer slot of said different classification is the control approach of the communication device characterized by being the bulk transfer slot of said USB, an isochronous transfer slot, or at least two transfer slots in an interrupt transfer slot.

[Claim 85] In claim 82,

The control approach of the communication device characterized by receiving said image using the bulk transfer slot of said USB when receiving said image using the isochronous transfer slot of said USB in receiving the image in which facsimile coding was carried out by said picture input device, and receiving said image by which facsimile coding is not carried out.

[Claim 86] In claim 82,

The control approach of said communication device has the voice communication process which makes the voice which communicates by said picture input device communicate,

It is the control approach of the communication device which the voice which communicates in said voice communication process communicates using the isochronous transfer slot of said USB, and is characterized by transmitting said image using the bulk transfer slot of said USB.

[Procedure amendment 2]

[Document to be Amended] Specification

[Item(s) to be Amended] 0017

[Method of Amendment] Modification

[Proposed Amendment]

[0017] In the image communication system which has the communication device which has the visible output means which carries out the visible output of the means of communications and the image which communicate through a communication line in order that this invention may attain the above-mentioned purpose, and the picture input device which inputs an image [whether the visible output of said picture input device is carried out with said visible output means by which said communication device has the image transmitted from said picture input device, and] A directions means to direct whether to transmit through a communication line by said means of communications which said communication device has to said communication device, It has a transmitting means to transmit the image for making said communication device perform processing according to directions of said directions means to said communication device. Said communication device the control for carrying out the visible output of the

image received by receiving means to receive the image transmitted from said picture input device, and said receiving means with said visible output means -- or The image communication system characterized by having the control means which performs control for transmitting through a communication line by said means of communications according to directions by said directions means is offered.

[Procedure amendment 3]

[Document to be Amended] Specification

[Item(s) to be Amended] 0018

[Method of Amendment] Modification

[Proposed Amendment]

[0018] Moreover, it sets to the control approach of an image communication system of having the communication device which has the visible output function which carries out the visible output of the communication facility and the image which communicate through a communication line, and the picture input device which inputs an image. [whether the visible output of said picture input device is carried out by said visible output function in which said communication device has the image transmitted from said picture input device, and] The directions process which directs whether to transmit through a communication line by said communication facility which said communication device has to said communication device, It has the transmitting process which transmits the image for making said communication device perform processing according to the directions in said directions process to said communication device. Said communication device the control for carrying out the visible output of the image received in the receiving process which receives the image transmitted from said picture input device, and said receiving process by said visible output function -- or The control approach of the image communication system characterized by having the control process which performs control for transmitting through a communication line by said communication facility according to the directions in said directions process is offered.

[Procedure amendment 4]

[Document to be Amended] Specification

[Item(s) to be Amended] 0019

[Method of Amendment] Modification

[Proposed Amendment]

[0019] Moreover, it sets to a picture input device connectable with the communication device which has the visible output means which carries out the visible output of the means of communications and the image which communicate through a communication line. A directions means to direct whether to carry out the visible output of the image transmitted from said picture input device with said visible output means which said communication device has, or transmit through a communication line by said means of communications which said communication device has to said communication device, The picture input device characterized by having a transmitting means to transmit the image for making said communication device perform processing according to directions of said directions means to said communication device is offered.

[Procedure amendment 5]

[Document to be Amended] Specification

[Item(s) to be Amended] 0020

[Method of Amendment] Modification

[Proposed Amendment]

[0020] Moreover, can connect with a picture input device and it sets to the communication device which has the means of communications which communicates through a communication line, and the visible output means which carries out the visible output of the image. A receiving means to receive directions of whether the visible output of the image received from said picture input device is carried out with said visible output means, or to transmit through a communication line by said means of communications from said picture input device, the control for carrying out the visible output of the image received from said picture input device with said visible output means -- or The communication device characterized

by having the control means which performs control for transmitting through a communication line by said means of communications according to the directions received with said receiving means is offered.

[Procedure amendment 6]

[Document to be Amended] Specification

[Item(s) to be Amended] 0021

[Method of Amendment] Modification

[Proposed Amendment]

[0021] Moreover, it sets to the control approach of a picture input device which can connect with the communication device which has the visible output function which carries out the visible output of the communication facility and the image which communicate through a communication line. The directions process which directs whether to carry out the visible output of the image transmitted from said picture input device by said visible output function which said communication device has, or transmit through a communication line by said communication facility which said communication device has to said communication device, The control approach of the picture input device characterized by having the transmitting process which transmits the image for making said communication device perform processing according to the directions in said directions process to said communication device is offered.

[Procedure amendment 7]

[Document to be Amended] Specification

[Item(s) to be Amended] 0022

[Method of Amendment] Modification

[Proposed Amendment]

[0022] Moreover, can connect with a picture input device and it sets to the control approach of a communication device of having the means of communications which carries out the line of the communication link through a communication line, and the visible output means which carries out the visible output of the image. The receiving process which receives directions of whether the visible output of the image received from said picture input device is carried out with said visible output means, or to transmit through a communication line by said means of communications from said picture input device, the control for carrying out the visible output of the image received from said picture input device with said visible output means -- or The control approach of the communication device characterized by having the control process which performs control for transmitting through a communication line by said means of communications according to the directions received in said receiving process is offered.

[Procedure amendment 8]

[Document to be Amended] Specification

[Item(s) to be Amended] 0101

[Method of Amendment] Modification

[Proposed Amendment]

[0101] As explained above, according to the gestalt of the above-mentioned implementation, actuation which prints the image data of picture input devices, such as a digital camera, or is transmitted to a communication line can be performed by easy actuation.

[Procedure amendment 9]

[Document to be Amended] Specification

[Item(s) to be Amended] 0105

[Method of Amendment] Modification

[Proposed Amendment]

[0105]

[Effect of the Invention] As mentioned above, according to this invention, since the direct directions of the actuation which prints the image of picture input devices, such as a digital camera, using the function of communication devices, such as facsimile apparatus, or is transmitted to a communication line can be

- carried out from a picture input device at a communication device, the operability of the system which the above-mentioned printing and transmission can do can be improved.

[Translation done.]